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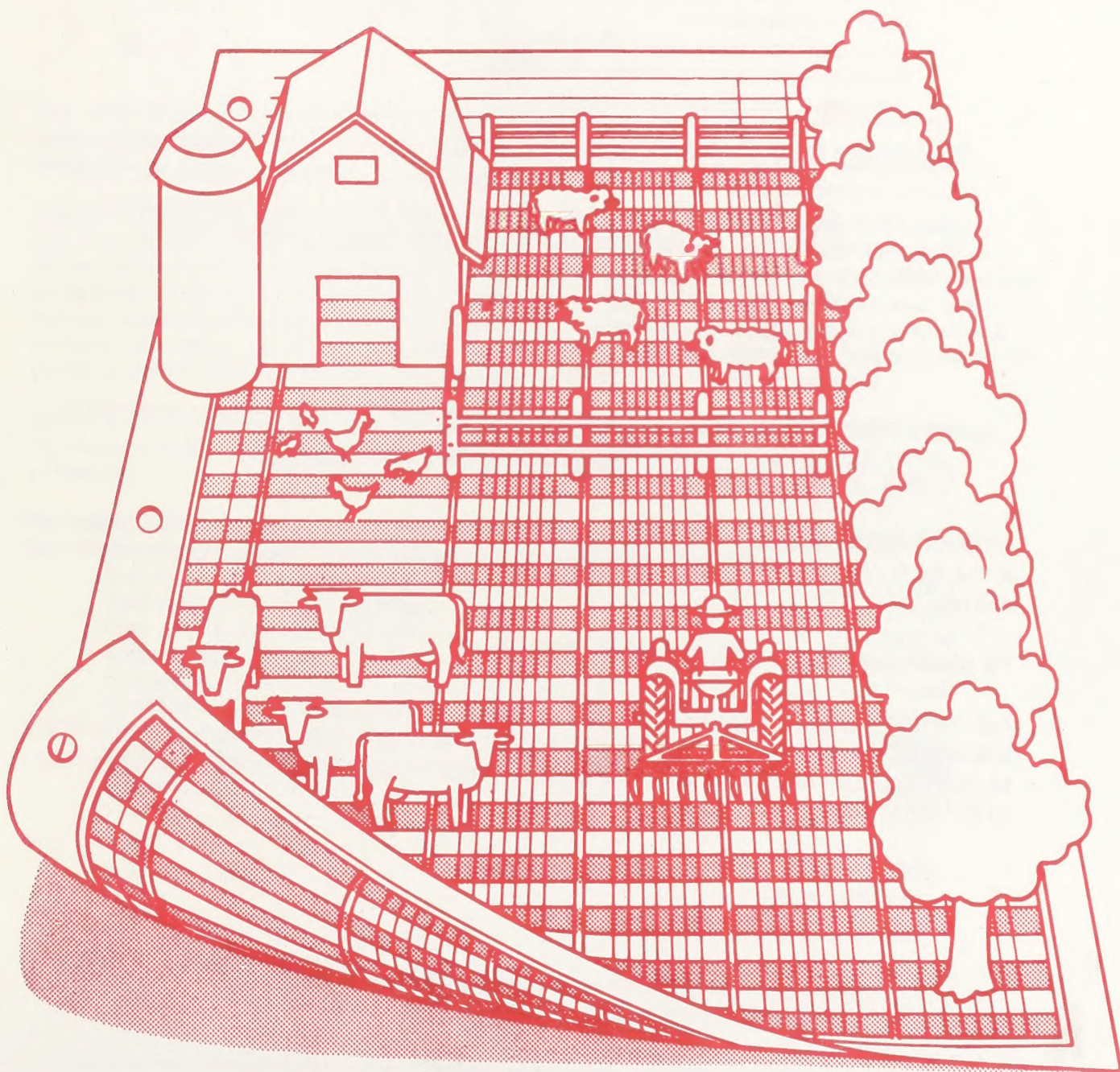
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## Economic Indicators of the Farm Sector

# Costs of Production-- Major Field Crops, 1990





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## **Abstract**

Per-acre costs of producing major field crops changed little in 1990. A slight drop in fertilizer costs was offset by a rise in fuel. Increases in total variable cash expenses ranged from about 1 percent per acre for corn, oats, peanuts, and wheat to about 3 percent for rice and 4 percent for cotton. Total variable cash expenses per acre of soybeans and barley fell 2 percent as seed costs fell.

**Keywords:** Costs of production, enterprise costs and returns.

## **Preface**

This report is one of five in the annual *Economic Indicators of the Farm Sector* series. Others are: *National Financial Summary*, *State Financial Summary*, *Costs of Production--Livestock and Dairy*, and *Production and Efficiency Statistics*.

This year's *Costs of Production--Major Field Crops* incorporates new production practice and expenditure data from the soybean and grain sorghum versions of the 1990 Farm Costs and Returns Survey (FCRS) and the wheat version of the 1989 FCRS. The new FCRS data have been incorporated into the estimates for soybeans, sorghum, and wheat beginning in 1989. A Northern Plains region has been added to the soybean estimates, wheat regions have been consolidated, and methods of estimating labor, general farm overhead, and interest expenses have been changed as the new FCRS data were used. Wheat estimates for regions as defined prior to 1989 are in the appendix.

Cost-of-production estimates for sugar beets and sugarcane, which are published in the September and March issues of *Sugar and Sweetener Situation and Outlook Report*, are no longer reprinted in this publication.

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## Highlights

Per-acre costs of production changed little in 1990. A slight drop in fertilizer costs was offset by a rise in fuel costs as diesel and gasoline prices rose sharply in late 1990. Seed costs, after rising in 1989 because of the 1988 drought, fell in 1990 for corn, oats, barley, and soybeans. Seed costs for cotton and peanuts rose. Wheat and rice seed costs were unchanged. Increases in total variable cash expenses ranged from about 1 percent per acre for corn, oats, peanuts, and wheat to about 3 percent for rice and 4 percent for cotton. Total variable cash expenses per acre of soybeans and barley fell 2 percent as seed costs fell.

Cotton costs rose as increased yields resulted in higher ginning costs per acre. Total variable cash expenses per acre of soybeans and barley fell 2 percent as seed costs fell. Sorghum costs per acre were unchanged.

This year's *Costs of Production--Major Field Crops* incorporates new production practice and expenditure data from the soybean and grain sorghum versions of the 1990 Farm Costs and Returns Survey (FCRS) and the wheat version of the 1989 FCRS.



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# Economic Indicators of the Farm Sector

## Costs of Production--Major Field Crops, 1990

### 1990 Production Costs and Returns

Per-acre costs of producing major field crops changed little in 1990 (fig. 1). A slight drop in fertilizer costs was offset by a rise in fuel (fig. 2). Increases in total variable cash expenses ranged from about 1 percent per acre for corn, oats, peanuts, and wheat to about 3 percent for rice and 4 percent for cotton.

Cotton costs rose as increased yields resulted in higher ginning costs per acre. Total variable cash expenses per acre of soybeans and barley fell 2 percent as seed costs fell. Sorghum costs per acre were unchanged.

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The Agriculture and Consumer Protection Act of 1973 and subsequent legislation require that the Department of Agriculture annually estimate costs of producing wheat, feed grains, cotton, milk, rice, peanuts, sugar beets, sugarcane, and tobacco. Regional and U.S. estimates for these commodities, except milk, sugar beets, sugarcane, and tobacco, are presented in this report. The 1990 U.S. production costs are updates of those released in December 1991 (9). <sup>1/</sup>

Although the estimates are often called budgets, they are not projections or goals, but historical estimates of costs, reflecting actual levels of input use, production practices, yields, and prices as measured by surveys of producers and suppliers. Costs include both cash expenditures, by farm operators and landlords, and economic costs of production. *Direct payments for and costs of participation in Government programs are excluded except as discussed later.*

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<sup>1/</sup> Italicized numbers in parentheses cite sources listed in References section.

### Structure of Accounts

ERS cost-of-production accounts include estimates of both cash expenditures and noncash costs. Cash expenditures are incurred when factors of production are purchased or rented. Noncash costs occur when factors are owned. For example, if a farmer fully owns the land used to produce corn, he would have no expenditure for land rental or for loans to pay for the purchase of land. Yet, an economic cost arises. By owning the land and using it to grow corn, the farmer forgoes income from other uses of the land, such as renting it to another producer. Costs come about because production resources are limited and have alternative uses. If a farmer uses savings to pay for operating inputs, such as seed, fertilizer, chemicals, and fuel, and thus pays no interest on operating loans, the farmer still incurs an economic cost because the savings could have earned a return in another use. Owned inputs are not without cost.

ERS combines in a single account the production costs and returns of farm operators and landlords. If a landlord pays a share of a farmer's costs, such as fertilizer, as part of a rental agreement, then those costs are added to the operator's costs and subtracted from the rental value of the land. Land rent is not included as a *cash* expense because what is a rental expense to the farm operator is offsetting income to the landlord. An ownership cost is imputed instead to land and is included as an economic cost.

Production costs are balanced with values of production (fig. 3). Total economic costs, including returns to all factors of production, are equal to gross value of production. Crops are valued at their time of harvest. Marketing costs and returns are excluded. Costs, including hauling and drying, are measured to the point of first sale or storage. Storage costs are excluded.

Figure 1  
Variable cash expenses per planted acre, 1988-90

Dollars  
350

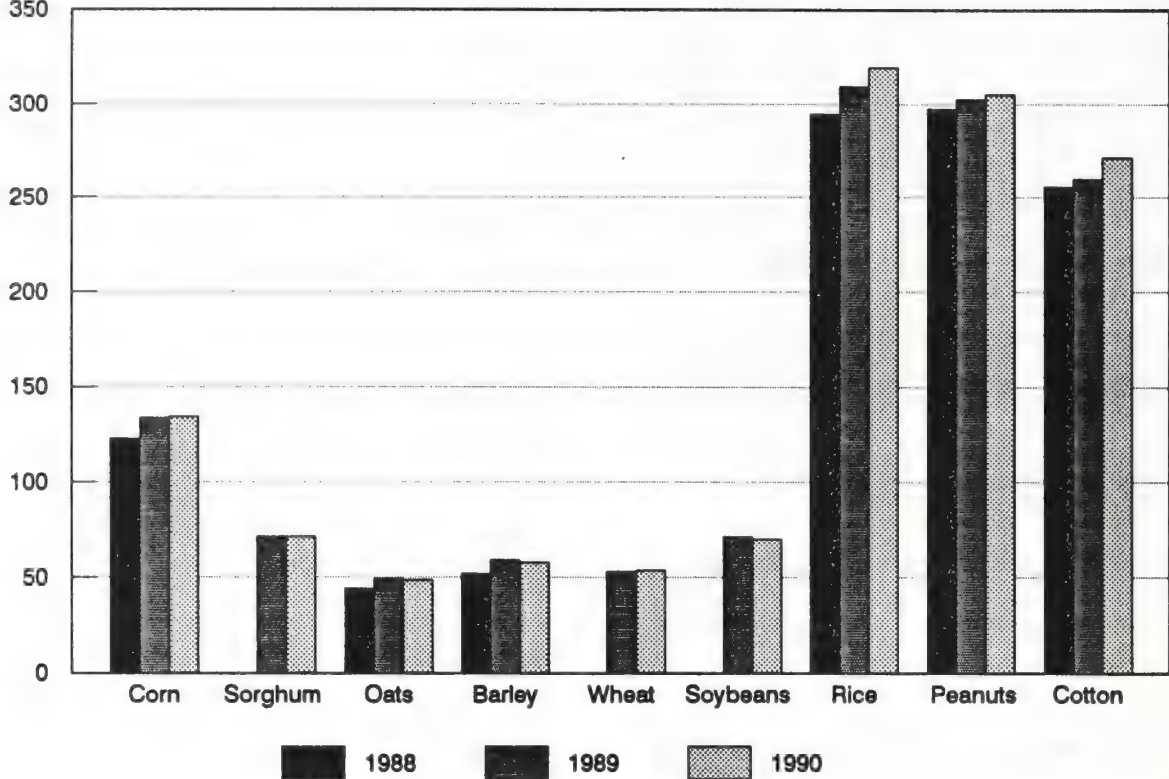
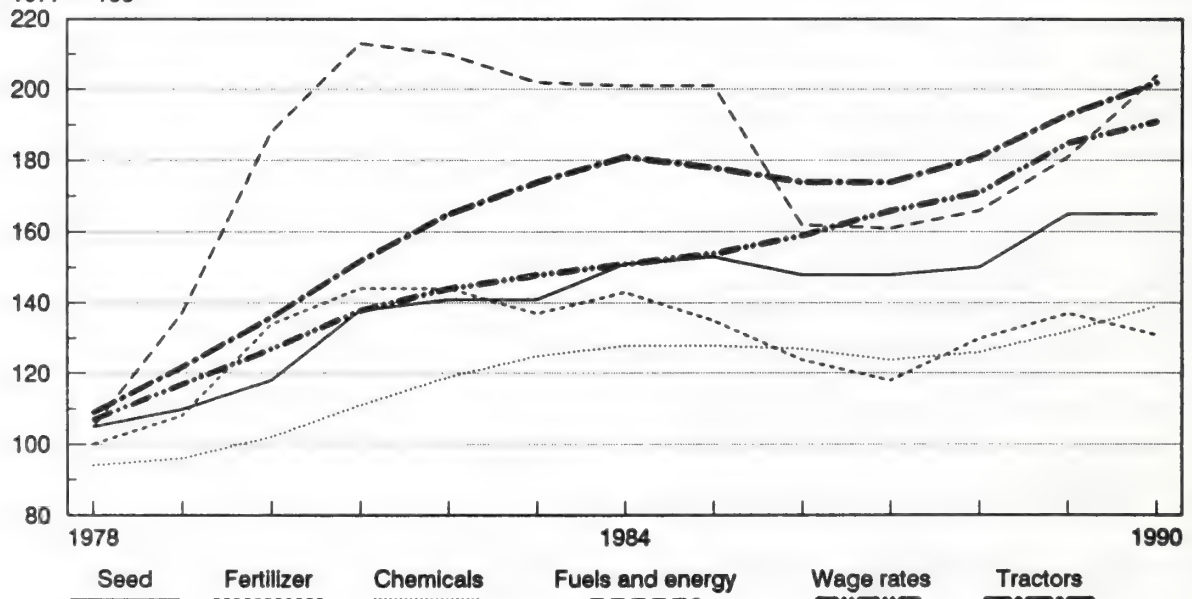


Figure 2  
Indexes of prices paid, 1978-90

1977 = 100





Gross value of production minus cash expenses is a short-term return to production and measures the amount of cash that would be left to cover longer term costs, such as machinery replacement, to retire debt, or, in the case of producers who rent land, to pay land rental.

ERS prepares production cost estimates on a per-planted-acre basis. Costs are included only for acreage that was planted with the intention of being harvested for grain. Excluded are corn and sorghum silage and small grains planted only as cover crops or for grazing. Costs are included for production that is abandoned because of crop damage. On double-cropped acreage (two crops on the same land in the same growing season), land costs are divided between the two crops. For crops that are planted following a fallow season, 2 years of land costs are counted.

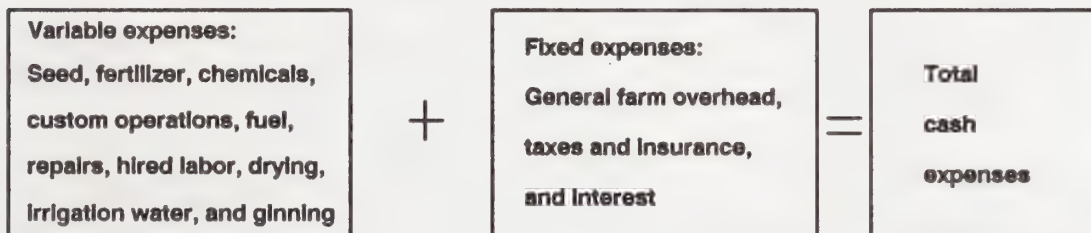
Most major field crops are produced on farms growing more than one crop; farm machinery, equipment, buildings, and their costs are shared by the various enterprises on the farm. ERS allocates machinery operating costs and capital replacement costs to a particular crop enterprise based on estimates of hours that the machine is used on that crop relative to total hours of annual use. General farm overhead expenses and interest payments are allocated to an individual crop based on that crop's share of gross value of production.

Some major field crops yield secondary crops, for example, cottonseed from cotton, straw from oats, barley, and wheat. Production costs for the secondary crops cannot be separated from those of the major crops. Therefore, ERS includes estimates of the values of production of secondary crops in order to balance

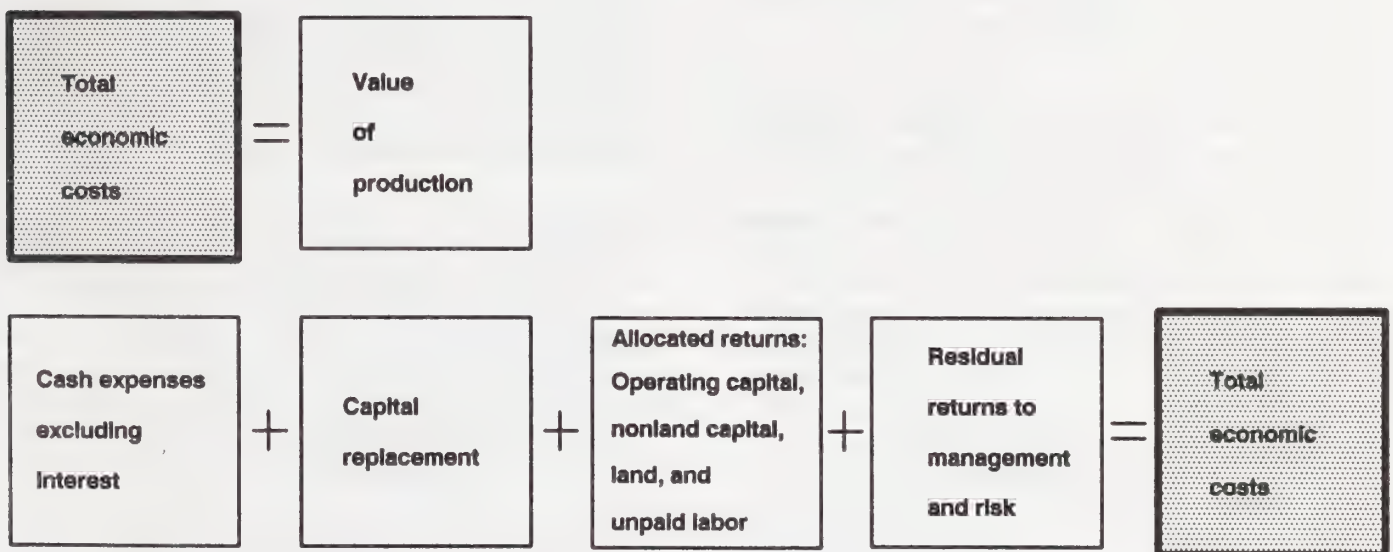
Figure 3

### Structure of accounts

#### Cash costs



#### Economic costs



production costs with gross value of production. The value of a secondary crop, especially straw in the Northeast, can be considerable.

### **Government Programs and Costs of Production**

Government commodity programs most prominently affect ERS cost-of-production accounts by affecting crop prices. ERS allocates some whole-farm expenses and calculates share rental costs and residual returns to management and risk from crop prices. The market prices that ERS uses can be influenced by Government nonrecourse loan and marketing loan programs. Thus, effects of these programs on prices are included in the cost-of-production estimates. Direct Government payments and participation costs in farm income support programs, however, are generally excluded.

The Government's Commodity Credit Corporation (CCC) operates nonrecourse loan programs for corn, grain sorghum, barley, oats, wheat, rice, soybeans, peanuts, and upland cotton. The programs enable producers to use a crop as collateral for a nonrecourse loan. Producers may either repay the loan and sell the crop on the market or forfeit the crop to the CCC at no cost other than storage. Prices are supported as crops are temporarily removed from the market.

Marketing loan programs, which operate for rice and cotton, allow prices to fall below CCC loan rates. Participants can repay loans at either the loan rate or the world price, whichever is lower. Proceeds from marketing loans, that is, the difference between the world price and the nonrecourse loan rate, are included only in the rice estimates that incorporate direct Government payments.

The Government operates deficiency payment programs for corn, grain sorghum, barley, oats, wheat, rice, and upland cotton. Farmers and landlords, if they participate in the programs, may receive *direct payments* based on proven yields. Payment rates are calculated as the lesser of either the difference between the CCC loan rate and the Government-established target price or the market price and the target price. A participant may be required to idle acreage that would have been planted to the crop in return for direct payments on the remaining acreage. Participants may also be required to incur costs by maintaining a cover crop or controlling weeds on the idled acreage. ERS has not included the participation costs and the direct payments

in the cost-of-production estimates. Beginning with the 1988 rice estimates, ERS presents an additional set of cost-of-production estimates that includes direct Government payments and program participation costs. Included are costs and returns associated with both planted rice acreage and with acreage idled by participants in the rice program.

### **Gross Value of Production**

ERS accounts begin with estimates of value of production per acre for each crop. Gross value of production is defined as the value of the primary and secondary crops at the time of harvest. ERS generally excludes deficiency payments, paid land diversions, and marketing loan proceeds from gross value of production. Also excluded are income from crop insurance indemnities and disaster assistance payments. An additional set of estimates for rice includes deficiency payments and marketing loan proceeds. There was no paid land diversion for rice.

### **Variable and Fixed Cash Expenses**

Cash expenses represent the amount of money spent during the production process. Variable cash expenses include seed, fertilizer, chemicals, custom operations, hired labor, fuel, repairs, purchased irrigation water, drying, cotton ginning, and technical services, such as insect scouting and soil testing. Variable expenses depend upon production practices and quantities of inputs used and their prices. Fixed cash expenses include taxes and insurance, general farm overhead, and interest paid on operating loans and real estate loans. Fixed cash expenses, which are difficult to attribute directly to a specific enterprise on a farm, are allocated to each crop based on its relative value of production.

### **Economic (Full-Ownership) Costs**

Economic costs are long-term costs that account for all production inputs, without regard to the ownership or equity positions of farm operators. Full-ownership costs are charged. Economic costs include both variable and fixed cash expenses except interest payments, capital replacement, imputed costs of land, unpaid labor, capital invested in production inputs and machinery, and residual returns to risk and management. Cash expenses are valued by market prices or by expenditures reported by farmers. Noncash costs are measured from values of capital, land, and



unpaid labor in alternative uses. They are called returns to owned inputs, in accord with the full-ownership definition.

**Capital replacement.** Capital replacement is the portion of the value of machinery and equipment, in addition to repairs, that is used up in the production of a particular crop. It is based on the current value of the machinery. Capital replacement may be regarded as a discretionary expense in any particular year. It may be deferred when income is low but ultimately must be paid to maintain the capital stock.

**Operating and other nonland capital.** The cost of, or the return to, operating capital is the cost of carrying input expenses from the time they are used until harvest. ERS measures the return to operating capital at the annual average rate on 6-month U.S. Treasury bills. The return to other nonland capital is the cost of having capital invested in farm machinery and equipment. ERS calculates this cost as equal to the sectorwide longrun rate of return to production assets.

**Land.** Cropland is a specialized input. Its value depends on the value of the crops that it produces, which is reflected in share and cash rental costs. Because an alternative use for land for any one landowner is to rent it to someone who will produce the same crop, ERS values land in the cost-of-production accounts at its rental value. The land rental rates for each crop are composite share and cash rental rates. ERS calculates the share rental value directly from the actual yield and price of the crop. Cash rental rates, which are fixed at the outset of production, presumably reflect expectations about crop yields and prices. The net land rent (gross rent minus real estate taxes and the value of inputs supplied by landlords) is applied to all acreage, regardless of whether it is owned or rented by the farm operator.

Government commodity programs, which support crop prices and make payments to farm operators and landlords based on yields, affect the costs of land. When ERS excludes direct Government payments from gross value of production, it also excludes the payments from the share rent. Including the payments would increase the share rental charge when the crop's market price is below the direct Government payment level.

**Unpaid labor.** Labor costs are divided between hired and unpaid labor depending upon whether a cash wage

is paid. ERS counts hired labor as a variable cash expense and imputes a value to unpaid labor based on estimated hours worked and average agricultural wage rates. Unpaid labor is included as a noncash cost. Additional value of labor, such as for managerial and entrepreneurial skill, is reflected in residual returns.

**Residual returns to management and risk.** The difference between gross value of production and the total of cash expenses except interest, allocated returns to operating capital, other nonland capital, land, and unpaid labor is residual returns to management and risk. Returns to management are expected to be positive, though their level is not known. Because of variability in weather and crop prices, which are beyond a farmer's control, returns to risk in any particular year may be positive or negative. Over time, however, they should average zero. Combined returns to management and risk, therefore, are expected to be positive.

For some crops, the average returns to production management and risk shown in ERS accounts have been consistently negative in recent years. Because direct Government payments are excluded from the accounts, the estimated gross value of production may be less than what farmers actually receive. Although costs, particularly for land, would also increase if direct Government payments were included, residual returns may be greater than shown. Net returns to marketing a crop beyond production may also be positive.

## Data Sources and Estimation Procedures

The primary data source for annual cost-of-production estimates is the Farm Costs and Returns Survey (FCRS). It is supplemented with price and production data from other sources, mainly *Agricultural Prices* (7) and *Crop Production* (8). Seed, fertilizer, and machinery operating costs are generally derived from producers' descriptions of inputs, field operations, and machinery used on a particular crop and from input price and machinery performance data. Other variable cash expenses and fixed cash expenses come from producers' estimates of expenditures (5).

ERS calculates cost-of-production estimates using computerized "budget generators." The budget generator used for most estimates in this publication is based on the Firm Enterprise Data System (FEDS). Modifications have been made to FEDS so that the

estimates conform to current ERS definitions and structure of accounts. FEDS "budgets" are constructed at the State level, and regional and national cost-of-production estimates are made by adding the State-level costs per acre in proportion to the acres of a crop planted in each State.

ERS is replacing FEDS budgets with farm-level models. For the 1988-90 rice estimates and the 1989-90 soybean, sorghum, and wheat estimates in this report, ERS uses farm-level cost models. A farm-level model calculates production costs for each farm in the FCRS and then aggregates the costs to produce regional and U.S. estimates. The farm-level approach to cost estimation allows greater differentiation in costs between farms and more detailed analysis of cost-of-production information.

### **Farm Costs and Returns Survey**

The FCRS is conducted annually by ERS and the National Agricultural Statistics Service (NASS). Each year, there are multiple versions of the FCRS: an indepth whole-farm version and commodity cost-of-production versions. All versions have common questions about whole-farm expenses and income. Each cost-of-production version gathers more detailed information about input use, field operations, and production costs of a particular crop.

The FCRS is a multiframe stratified survey. The sample is drawn from stratified list and area frames. For a particular cost-of-production version, the list frame is made up of farms known to have produced the commodity previously. The list frame is stratified by size. The area frame is made up of land segments, stratified by land use. Each sampled farm represents a number of similar farms, the particular number being the survey expansion factor, which is the inverse of the probability of the sampled farm being selected. Data are expanded by the survey expansion factors to produce estimates for the population of all farms producing the commodity.

Farmers are interviewed in person by field enumerators using questionnaires developed by NASS and ERS. The FCRS takes place during February and March, with questions being asked about production in the previous year.

**FCRS base years.** Because of survey costs, USDA cannot undertake detailed cost-of-production surveys of every major field crop in every year. Instead, the FCRS covers each commodity in detail about every 4 years (fig. 4). ERS updates the FCRS-based costs from other data sources in nonsurvey years.

**Statistical precision.** The FCRS, like other surveys, is not a complete enumeration of all farms. A sample is chosen to represent all farms producing a particular crop. There are many possible samples, each of which can yield different estimates even if the same questionnaires, instructions, and enumerators are used.

The variation in estimates that comes simply from different possible samples is called sampling error. Sampling "error" is not the result of mistakes. It arises because any randomly chosen sample may not exactly match the population of all farms: the values of data items can differ from farm to farm and only some of the farms are selected in a sample.

Sampling error is controlled in the FCRS by the sample size and by carefully grouping or stratifying similar farms before samples of each group or stratum are drawn. By measuring the differences in a data item within the groups, ERS measures FCRS sampling errors, an indication of how far the value in the sample may be from the "true" value for all farms. Chemical costs per acre, an item that is measured solely from the FCRS, had sampling errors of about 4 percent for the U.S. rice, wheat, and soybean estimates. This means that there is a 95-percent probability that the FCRS estimates are within about 8 percent of the "true" costs.

Survey data may also contain nonsampling errors, such as misstating of questions by enumerators and inability or unwillingness of respondents to give accurate answers. Nonsampling errors are controlled in the FCRS by designing and pretesting questions so that they can be answered easily and accurately from farm records, by training and supervising enumerators who are familiar with farming in the surveyed areas, and by reviewing data for consistency.

### **Gross Value of Production**

ERS calculates gross value of production per acre for each crop by multiplying the harvest-month price for the crop times its per-planted-acre yield. State-level yields and prices are updated annually from *Crop*



*Production* (8) and *Agricultural Prices* (7) and are aggregated to regional and national estimates. Data on direct Government payments, when included, come from USDA's Agricultural Stabilization and Conservation Service (ASCS).

### Variable Cash Expenses

**Seed.** Data on seed expenses come from the FCRS and NASS. Seeding rates and the proportions of seeds that are purchased and that are produced on the farm are determined from the FCRS. NASS furnishes commercial seed prices. Homegrown seed is valued at the previous year's average price for the crop plus an allowance for cleaning and treating. Seeding rates are held constant between surveys. ERS updates seed prices annually.

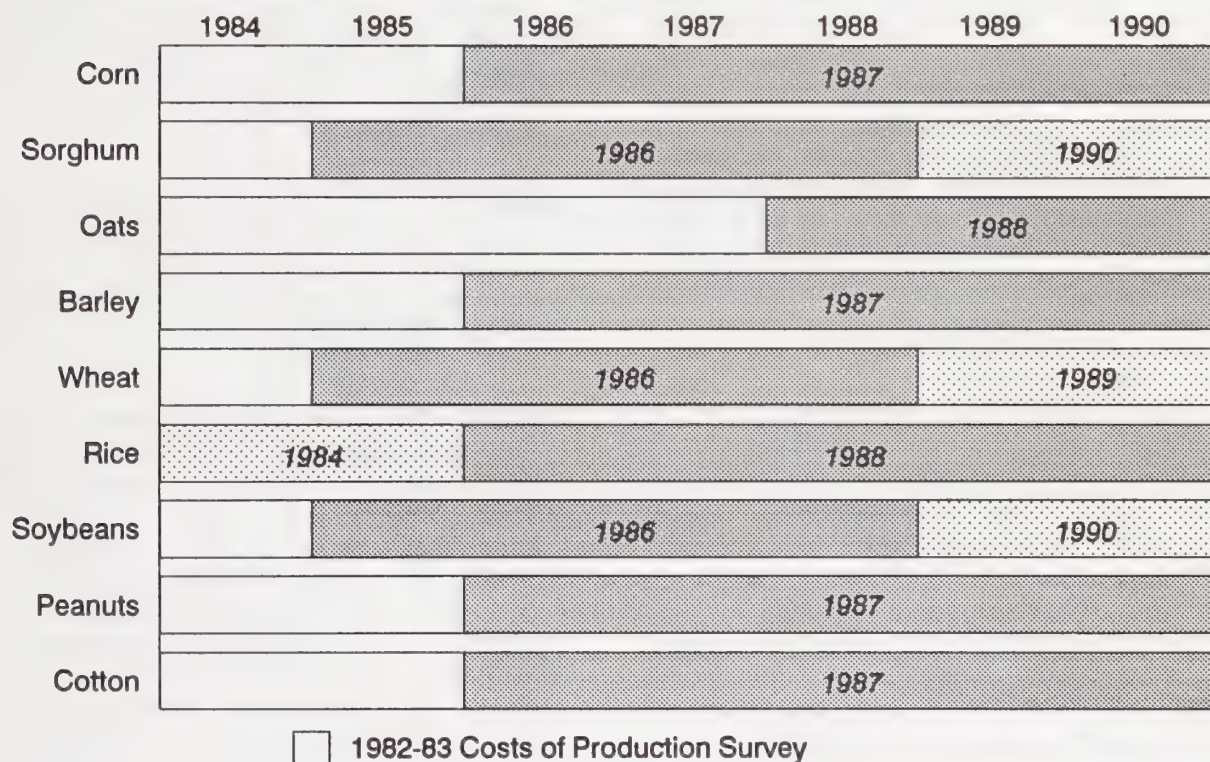
**Fertilizer.** ERS calculates fertilizer costs by multiplying prices per-pound of primary nutrient (the same for all crops) by the pounds of nutrients applied to each crop. ERS estimates nutrient prices for each

year by weighting prices of fertilizer by the amount of each nutrient in each commercial fertilizer mixture used in each State. Prices and compositions of commercial fertilizers come from *Agricultural Prices* (7). Data on the amount of fertilizers used come from *Commercial Fertilizers* (2). The FCRS supplies fertilizer rates for each crop. Rates of application of lime, gypsum, secondary nutrients, and micronutrients for each crop are also obtained from the FCRS. Annual prices of lime come from *Agricultural Prices* (7), gypsum from major suppliers, and secondary and micronutrients from the *Chemical Marketing Reporter* (1). Beginning in 1989, fertilizer costs for soybeans and sorghum are determined by asking producers directly for their expenditures on fertilizer for these crops.

**Chemicals.** ERS estimates costs of chemicals used in crop production from expenses reported in specialized versions of the FCRS. Producers state their expenses for pesticides, growth regulators, and defoliant. In nonsurvey years, ERS adjusts chemical expenses by the annual change in the index of prices paid for agricultural chemicals in *Agricultural Prices* (7).

Figure 4

Farm Costs and Returns Survey bases of cost estimates, 1984-90



Note: All estimates prior to 1984 are based on 1982-83 and 1978 Costs of Production Surveys.

**Custom operations.** When a producer hires machinery and labor to perform a farming operation, ERS counts the cost as a custom operation. Services that are often custom-hired are rice seeding from airplanes, crop spraying, and hauling grain to an elevator. Expense data for custom operations for a crop come from the cost-of-production versions of the FCRS. Custom operation costs are adjusted between surveys by the index of farm services and cash rent, which is published in *Agricultural Prices* (7).

**Fuel, lube, and electricity.** Fuel, lubrication, and electricity are the cost of fuel and power used by tractors, harvesters, trucks, pickups, and irrigation pumps. ERS estimates fuel, lubrication, and electricity costs from FCRS and engineering performance data. FCRS data indicate the machines, their sizes, and the acres they cover. These data are combined in the budget generator with engineering specifications of speed and field efficiency to arrive at hours of use per acre. The number of hours each machine is used is multiplied by a fuel consumption rate that is related to the size of the machine and the type of fuel. ERS estimates electricity costs of pumping irrigation water from FCRS data on well, pump, and motor sizes and the hours that water is pumped. ERS estimates the lubrication costs at 15 percent of fuel costs. Fuel prices are updated annually. ERS obtains prices of gasoline, diesel, and liquefied petroleum gas from *Agricultural Prices* (7) and subtracts Federal and State taxes on gasoline that are refunded for agricultural use. Natural gas prices are obtained from the Department of Energy, electricity prices from the Edison Electric Institute. Machinery performance data come from the American Society of Agricultural Engineers (ASAE). The ASAE periodically updates the data, and ERS uses the most recent information. Performance standards for most machines were last updated in 1988.

**Repairs.** Hours of machine use form the basis of the estimate of repair costs. ERS first calculates the total accumulated repairs for a machine based on the list price and age of the machine and engineering relationships measured in the Nebraska tractor tests. Total accumulated repairs for a machine are then divided by an estimate of the total accumulated hours that the machine has been used. The resulting repair rate per hour is multiplied by the hours that the machine is used in the production of the crop. List

prices for machinery are updated annually from producer price indexes for farm machinery published by the Department of Labor.

**Hired labor.** ERS arrives at the hired labor cost from producers' estimates of the portion of whole-farm cash expenses for labor that was for the particular crop. The crop-specific versions of the FCRS ask farmers for their total expenses for contract labor, cash wages, bonuses, value of noncash benefits, and the percentage of each item that was for the particular crop. In nonsurvey years, the hired labor cost is adjusted by the percentage change in the State-level agricultural wage rate, published in *Farm Labor* (9). Wage rates are updated annually.

**Purchased irrigation water.** The cost of water purchased from irrigation districts and the cost of pumping private association water are listed by ERS as purchased irrigation water. The cash costs of pumping water from a producer's own wells are included in fuel, lubrication, and electricity, repairs, and labor. Data on expenses for purchased water come from the FCRS.

**Drying.** ERS includes drying costs for corn, sorghum, peanuts, and rice. To estimate drying costs, ERS uses commercial rates and specifications of fuel types and initial moisture content. Data are from the FCRS and engineering relationships on the energy required to remove moisture. Fuel prices and production data are updated annually.

**Ginning.** Cotton ginning costs per acre, updated annually, are based on costs of ginning per bale and cotton yield per acre. Data on ginning charges per bale come from annual ERS staff reports. Cotton yield data come from *Crop Production* (8).

**Miscellaneous and technical services.** Miscellaneous costs include baling wire for straw and levee gates for rice. Data on miscellaneous expenses come from the FCRS.

Technical services include soil testing, scouting, and land surveying. As with custom operations, data on expenses for technical services are drawn from the specialized versions of the FCRS and updated annually by the index of farm services and cash rent.



## Fixed Cash Expenses

**General farm overhead.** General farm overhead is expenses for electricity and nonirrigation water for general farm use, telephone, farm shop and office equipment and supplies, fence maintenance and repairs, water drainage, farm share of motor vehicle registration and licensing fees, accounting and legal fees, business travel, dues for memberships in farm organizations, farm share of liability and blanket insurance policies, and herbicides used to maintain farm roads and ditches.

ERS allocates general farm overhead expenses to each crop account in the year that the crop's version was included in the FCRS. They are allocated according to the crop's value of production as a proportion of total value of production and are adjusted in nonsurvey years by the percentage change in total general farm overhead expenditures for all farms. Data come from whole-farm questions asked annually on the FCRS.

**Taxes and insurance.** Taxes on a crop enterprise are estimated on machinery and on farm real estate. ERS calculates a tax cost for each machine based on the current purchase price of the machine, lagged 4 years to represent an average age, and an average tax rate for agricultural machinery. ERS estimates taxes on farm real estate by dividing total annual real estate taxes paid by the acres of farmland owned. ERS estimates the annual insurance charge for machinery in a manner similar to taxes on machinery. Data on machinery prices are updated annually from *Agricultural Prices* (7). Data on real estate taxes come from the specialized versions of the FCRS and are updated between surveys by State-level changes in real estate taxes.

**Interest.** ERS allocates a portion of whole-farm interest expenses to each crop in a manner similar to general farm overhead. Interest on operating loans includes finance charges and service fees on loans for machinery, the farm share of motor vehicles, fertilizer, seed, chemicals, and other inputs. Interest on real estate includes interest and service fees on farm business loans, land contracts, and other loans secured by real estate. Data on interest expenses come from whole-farm questions asked annually on the FCRS.

## Economic (Full-Ownership) Costs

Economic (full-ownership) costs include all cash expenses, except interest, plus capital replacement and

imputed costs of operating capital, nonland capital, land, unpaid labor, and residual returns to management and risk.

**Capital replacement.** Capital replacement costs for machinery, vehicles, and irrigation equipment are based on per-hour rates that the value of each machine, vehicle, or piece of equipment is used and on the hours per acre that each is used in the production of a crop. ERS calculates hourly capital replacement per machine by dividing the machine's current purchase price, less salvage value, by the hours that the machine will be used. ERS estimates the hours that farm machinery, vehicles, and irrigation equipment are used per acre of a crop from FCRS data on sizes, acres covered, miles driven, and water applied, plus performance data. Machinery prices are updated annually from *Agricultural Prices* (7). Performance data come from the American Society of Agricultural Engineers.

**Operating and other nonland capital.** ERS estimates the returns to operating capital by multiplying the value of inputs that are used up in production (seed, fertilizer, and fuel) by the time between their use and harvest, and by the cost of capital, which is the average interest rate on 6-month U.S. Treasury bills. The interest rates, reported by the Federal Reserve, for 1988, 1989, and 1990 were 6.92, 8.04, and 7.47 percent.

ERS estimates the return to other nonland capital by multiplying the current value of machinery and equipment used on a commodity by the rate of return to production assets from current income in the farm sector over the previous 10 years. ERS calculates the rate of return from data in *Economic Indicators of the Farm Sector: National Financial Summary, 1990*. The rates for the 10 years prior to 1988, 1989, and 1990 were 2.6, 3.1, and 3.4 percent.

**Land.** ERS allocates a net return to land based on its rental value in the production of a particular crop. The rental value is a composite of cash- and share-rental values. The cost-of-production versions of the FCRS measure cash rental rates and the percentage of production paid as share rent for each crop as well as the proportions of land cash- and share-rented. Nonsurvey year cash rental rates are updated from *Agricultural Resources: Land Values and Markets Situation and Outlook Report* (4). Share rents change annually as a crop's gross value of production, the product of yield and price, changes. The proportions of

cash- and share-rented acreage are not changed in nonsurvey years. ERS subtracts real estate taxes, which are included under taxes and insurance, and the value of inputs paid by landlords from the rental values. ERS estimates a per-acre value of peanut quota from FCRS data on quota cash rental rates.

**Unpaid labor.** The unpaid hours include the operator's time, if he was not paid a cash wage, and the time of all other unpaid workers. ERS measures the hours of labor for a crop from producers' estimates of average unpaid hours worked per week and the percentage of the unpaid time for that crop. ERS assesses the hours of unpaid labor at the agricultural wage rate plus an allowance for the employer's share of Social Security. Wage rates are published in *Farm Labor* (9) and are updated annually.

## References

1. *Chemical Marketing Reporter*. New York: Schnell Publishing Company, Inc. Selected issues.
2. Tennessee Valley Authority. *Commercial Fertilizers*. Annual summaries.
3. U.S. Department of Agriculture, Economic Research Service. *Economic Indicators of the Farm Sector: National Financial Summary, 1990*. ECIFS 10-1. September 1991.
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5. \_\_\_\_\_. *Major Statistical Series of the U.S. Department of Agriculture: Costs of Production*. Agricultural Handbook No. 671, Vol. 12. March 1992.
6. \_\_\_\_\_. *U.S. Average Costs of Production for Major Field Crops*. Agriculture Information Bulletin 639. December 1991.
7. U.S. Department of Agriculture, National Agricultural Statistics Service. *Agricultural Prices*. Annual summaries.
8. \_\_\_\_\_. *Crop Production*. Annual summaries.
9. \_\_\_\_\_. *Farm Labor*. Selected issues.



Figure 5

## Corn Production Regions



Figure 6

## Corn production costs per planted acre, 1990

Dollars

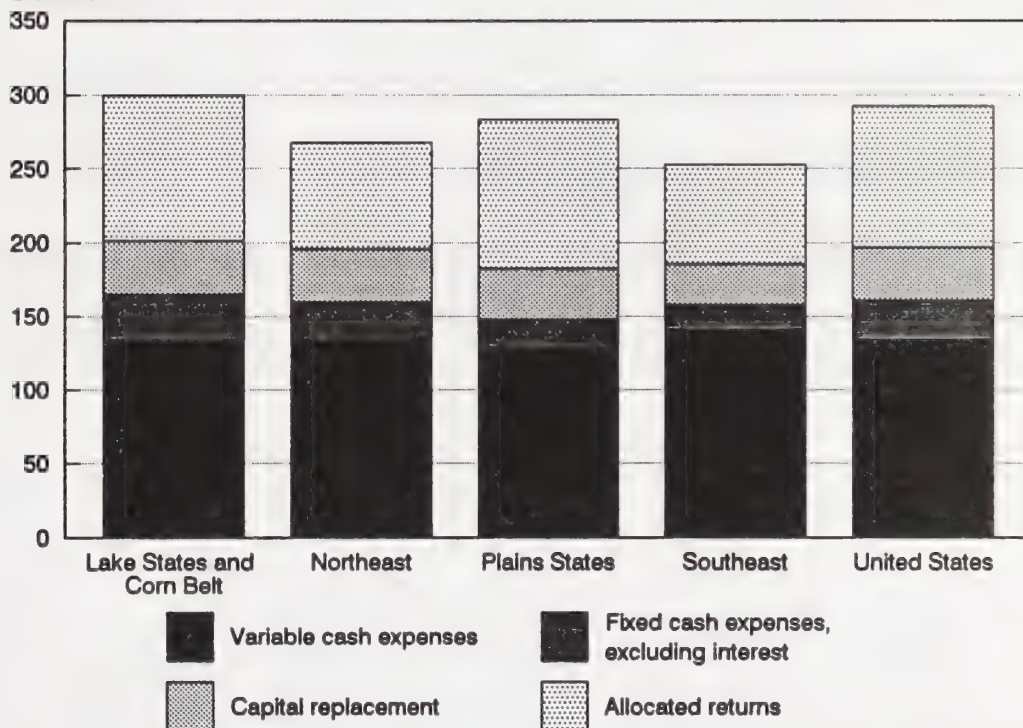


Table 1A--U.S. corn production cash costs and returns, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct Government payments):																
Corn	217.50	187.11	180.12	225.94	275.97	279.46	260.17	263.63	252.90	273.23	252.63	167.60	186.02	217.14	254.92	257.82
Total, gross value of production	217.50	187.11	180.12	225.94	275.97	279.46	260.17	263.63	252.90	273.23	252.63	167.60	186.02	217.14	254.92	257.82
Cash expenses:																
Seed	9.30	9.49	11.06	11.61	12.41	14.24	16.16	16.45	16.65	18.03	18.48	19.25	18.86	18.90	21.02	20.52
Fertilizer	38.17	34.39	34.36	33.00	37.55	47.29	51.93	49.66	48.03	50.93	50.99	38.51	35.25	43.09	45.05	40.43
Lime and gypsum	0.80	1.01	0.99	1.09	1.18	1.38	1.48	1.52	1.59	1.63	1.66	2.26	2.30	2.30	2.16	2.15
Chemicals	11.65	10.01	8.95	13.15	13.27	14.24	15.56	18.24	19.12	19.51	19.51	20.27	20.19	20.49	21.51	22.64
Custom operations	2.84	3.10	3.43	4.15	4.44	6.76	5.43	6.73	6.69	6.89	6.84	5.37	5.39	4.68	5.76	6.02
Fuel, lube, and electricity	5.76	6.19	6.81	8.12	12.53	17.12	20.17	18.35	15.96	14.10	15.75	9.01	10.60	10.63	11.88	12.81
Repairs	6.19	6.14	6.29	7.39	8.99	10.25	11.98	10.75	10.34	11.12	11.05	8.10	8.25	8.10	8.94	9.28
Hired labor	2.23	2.63	3.01	2.74	3.13	3.39	3.87	3.78	3.52	3.83	4.02	7.87	7.83	7.87	8.29	8.61
Purchased irrigation water	0.05	0.05	0.06	0.07	0.08	0.09	0.15	0.35	0.35	0.36	0.35	0.31	0.31	0.32	0.31	0.30
Drying	4.34	4.67	5.13	6.12	6.36	6.62	8.30	6.64	4.99	5.35	7.12	9.21	8.20	5.96	8.24	11.19
Miscellaneous	0	0	0	0	0	0	0.01	0.23	0.23	0.23	0.23	0	0	0	0	0
Technical services	0	0	0	0	0	0	0.05	0.83	0.83	0.81	0.80	0.25	0.26	0.26	0.26	0.26
Total, variable cash expenses	81.34	77.69	80.09	87.44	99.94	119.38	135.09	133.52	128.30	132.79	136.81	120.41	117.39	122.60	133.42	134.21
General farm overhead	14.44	15.55	16.59	12.35	14.83	16.60	15.43	16.20	15.22	15.37	10.93	10.42	10.15	10.81	10.42	12.06
Taxes and insurance	4.74	4.96	5.64	6.12	6.94	14.55	14.92	13.93	13.45	17.00	17.47	13.81	14.65	14.59	14.87	14.85
Interest on operating loans	10.40	9.62	9.20	10.31	12.50	15.01	19.13	19.67	19.15	21.20	12.60	7.71	5.45	4.91	5.08	5.46
Interest on real estate	19.52	19.51	19.48	19.48	19.57	19.68	22.80	27.64	25.95	24.71	20.12	13.25	10.66	10.03	10.05	11.19
Total, fixed cash expenses	49.09	49.64	50.90	48.26	53.84	65.84	72.28	77.44	73.77	78.28	61.12	45.19	40.91	40.34	40.42	43.56
Total, cash expenses	130.43	127.34	131.00	135.70	153.78	185.22	207.37	210.96	202.07	211.07	197.93	165.60	158.30	162.94	173.84	177.77
Gross value of production less cash expenses	87.07	59.78	49.12	90.25	122.19	94.24	52.80	32.67	50.83	62.16	54.70	2.00	27.72	54.20	81.08	80.05
Harvest-period price (dollars/bu.)	2.54	2.15	2.03	2.25	2.52	3.10	2.38	2.14	3.21	2.58	2.15	1.41	1.57	2.61	2.22	2.19
Yield (bu./planted acre)	85.70	87.10	88.80	100.50	109.60	90.15	109.28	113.76	78.76	105.79	117.29	118.46	118.83	83.22	115.03	117.50

Table 1B--U.S. corn production economic costs and returns, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct Government payments):																
Corn	217.50	187.11	180.12	225.94	275.97	279.46	260.17	263.63	252.90	273.23	252.63	167.60	186.02	217.14	254.92	257.82
Total, gross value of production	217.50	187.11	180.12	225.94	275.97	279.46	260.17	263.63	252.90	273.23	252.63	167.60	186.02	217.14	254.92	257.82
Economic (full ownership) costs:																
Variable cash expenses	81.34	77.69	80.09	87.44	99.94	119.38	135.09	133.52	128.30	132.79	136.81	120.41	117.39	122.60	133.42	134.21
General farm overhead	14.44	15.55	16.59	12.35	14.83	16.60	15.43	16.20	15.22	15.37	10.93	10.42	10.15	10.81	10.42	12.06
Taxes and insurance	4.74	4.96	5.64	6.12	6.94	14.55	14.92	13.93	13.45	17.00	17.47	13.81	14.65	14.59	14.87	14.85
Capital replacement	14.28	17.63	18.56	19.17	23.00	25.29	28.01	33.25	33.56	33.73	34.62	29.77	30.08	30.95	34.01	35.61
Operating capital	2.50	1.94	1.97	2.77	3.99	5.57	7.42	6.03	4.75	5.42	4.36	2.53	2.75	3.41	4.19	3.82
Other nonland capital	4.33	5.01	4.70	4.54	5.35	5.57	5.89	5.31	4.75	6.78	6.56	5.29	5.25	6.12	8.14	9.28
Land	54.80	47.96	47.18	60.17	75.11	66.27	61.32	51.29	47.95	67.63	54.82	41.19	44.26	52.83	57.80	59.63
Unpaid labor	6.34	7.50	8.56	7.80	8.90	9.63	11.00	10.74	10.03	10.30	11.45	19.70	20.04	21.26	22.04	23.06
Subtotal	182.57	178.24	183.30	200.36	238.07	262.60	278.60	270.86	258.43	289.61	277.02	243.12	244.57	262.57	284.89	292.52
Residual returns to risk and management	34.94	8.88	-3.18	25.59	37.90	16.86	-18.43	-27.23	-5.55	-16.38	-24.39	-75.52	-58.55	-45.43	-29.97	-34.70
Harvest-period price (dollars/bu.)	2.54	2.15	2.03	2.25	2.52	3.10	2.38	2.14	3.21	2.58	2.15	1.41	1.57	2.61	2.22	2.19
Yield (bu./planted acre)	85.70	87.10	88.80	100.50	109.60	90.15	109.28	113.76	78.76	105.79	117.29	118.46	118.83	83.22	115.03	117.50

Note: Survey base changed in 1986.



Table 2A--Corn production cash costs and returns, Lake States and Corn Belt, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct Government payments): Corn	228.30	189.46	190.21	234.18	286.21	299.44	268.66	250.64	256.72	275.04	255.32	171.65	192.13	197.57	260.63	265.63
Total, gross value of production	228.30	189.46	190.21	234.18	286.21	299.44	268.66	250.64	256.72	275.04	255.32	171.65	192.13	197.57	260.63	265.63
Cash expenses:																
Seed	9.51	9.52	11.20	11.77	12.62	14.66	16.64	16.86	17.39	18.62	18.84	19.39	19.11	19.21	21.22	20.70
Fertilizer	39.16	35.07	35.75	34.18	40.02	51.60	55.01	53.07	51.38	53.96	53.66	41.92	38.57	48.09	49.31	44.15
Lime and gypsum	0.85	0.93	0.95	1.13	1.24	1.44	1.54	1.20	1.25	1.32	1.38	2.53	2.53	2.68	2.45	2.45
Chemicals	12.13	10.48	9.44	13.93	3.95	15.13	16.47	18.88	19.81	20.31	20.29	22.19	22.22	22.59	23.66	24.88
Custom operations	2.56	2.69	3.11	3.69	3.95	4.31	4.76	6.34	6.20	6.45	6.54	5.21	5.22	4.26	5.55	5.84
Fuel, lube, and electricity	4.01	4.16	4.77	5.58	9.23	12.62	15.19	14.79	11.96	10.51	11.89	6.29	7.57	7.06	8.32	9.29
Repairs	5.60	5.36	5.72	6.60	7.76	8.63	10.15	9.57	8.76	9.75	9.64	6.64	6.68	6.27	7.16	7.61
Hired labor	2.03	2.26	2.57	2.50	2.88	3.10	3.57	3.44	3.07	3.41	3.59	6.93	6.90	6.90	7.21	7.64
Drying	5.18	5.37	6.16	7.21	7.38	7.77	9.80	7.80	5.84	6.16	8.31	10.40	9.15	5.94	9.14	12.10
Miscellaneous	0	0	0	0	0	0	0	0.16	0.16	0.16	0.16	0	0	0	0	0
Technical services	0	0	0	0	0	0	0	1.03	1.05	1.02	1.02	0.21	0.21	0.21	0.21	0.21
Total, variable cash expenses	81.03	75.85	79.68	86.59	99.31	119.26	133.13	133.14	126.87	131.67	135.32	121.71	118.16	123.21	134.23	134.87
General farm overhead	14.77	15.69	16.71	12.02	14.85	16.46	15.38	16.82	14.28	14.61	10.49	11.53	11.26	11.94	11.56	13.37
Taxes and insurance	4.47	4.81	5.47	5.92	6.80	15.74	15.99	14.63	13.84	18.59	18.96	15.59	16.80	16.60	16.84	16.86
Interest on operating loans	10.02	9.27	8.87	9.94	12.05	14.47	18.82	19.92	18.89	20.84	13.16	8.45	5.95	5.32	5.55	5.97
Interest on real estate	20.71	20.70	20.67	20.66	20.76	20.88	24.35	28.53	26.88	28.45	21.16	15.63	12.61	11.82	11.82	13.23
Total, fixed cash expenses	49.98	50.48	51.72	48.54	54.46	67.55	74.54	78.90	73.89	80.49	63.77	51.20	46.62	45.68	45.84	49.43
Total, cash expenses	131.01	126.32	131.39	135.13	153.77	186.81	207.67	213.04	200.76	212.16	199.09	172.91	164.78	168.89	180.07	184.30
Gross value of production less cash expenses	97.29	63.14	58.82	99.05	132.44	112.63	60.99	37.60	55.96	62.88	56.23	-1.26	27.35	28.68	80.56	81.33
Harvest-period price (dollars/bu.)	2.49	2.10	1.99	2.20	2.47	3.04	2.32	2.09	3.17	2.53	2.09	1.36	1.53	2.56	2.18	2.16
Yield (bu./planted acre)	91.80	90.00	95.70	106.30	116.00	98.50	115.68	120.06	81.02	108.66	121.96	126.25	125.69	77.19	119.47	122.71

Table 2B--Corn production economic costs and returns, Lake States and Corn Belt, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct Government payments): Corn	228.30	189.46	190.21	234.18	286.21	299.44	268.66	250.64	256.72	275.04	255.32	171.65	192.13	197.57	260.63	265.63
Total, gross value of production	228.30	189.46	190.21	234.18	286.21	299.44	268.66	250.64	256.72	275.04	255.32	171.65	192.13	197.57	260.63	265.63
Economic (full ownership) costs:																
Variable cash expenses	81.03	75.85	79.68	86.59	99.31	119.26	133.13	133.14	126.87	131.67	135.32	121.71	118.16	123.21	134.23	134.87
General farm overhead	14.77	15.69	16.71	12.02	14.85	16.46	15.38	16.82	14.28	14.61	10.49	11.53	11.26	11.94	11.56	13.37
Taxes and insurance	4.47	4.81	5.47	5.92	6.80	15.74	15.99	14.63	13.84	18.59	18.96	15.59	16.80	16.60	16.84	16.86
Capital replacement	13.51	15.74	16.90	18.01	21.02	22.02	25.04	34.01	34.11	34.11	34.87	30.55	30.83	31.41	34.72	36.67
Operating capital	2.36	1.94	2.01	2.77	4.00	5.65	7.44	6.05	4.76	5.44	4.34	2.54	2.76	3.45	4.20	3.82
Other nonland capital	4.14	4.51	4.33	4.31	4.94	4.71	4.87	5.98	5.18	6.80	6.55	5.26	5.21	5.95	8.00	9.22
Land	63.05	53.60	54.78	67.24	87.01	75.76	68.96	54.58	50.11	75.85	60.58	43.14	45.44	47.02	58.86	60.78
Unpaid labor	5.78	6.44	7.32	7.11	8.21	8.81	10.16	9.80	8.72	9.69	10.21	19.86	20.71	21.75	22.99	24.30
Subtotal	189.12	178.58	187.19	203.97	246.14	268.41	280.97	275.00	257.87	266.83	281.32	250.18	251.17	261.33	291.40	299.89
Residual returns to risk and management	39.18	10.88	3.02	30.21	40.07	31.03	-12.31	-24.36	-1.15	-21.79	-26.00	-78.53	-59.04	-63.76	-30.77	-34.26
Harvest-period price (dollars/bu.)	2.49	2.10	1.99	2.20	2.47	3.04	2.32	2.09	3.17	2.53	2.09	1.36	1.53	2.56	2.18	2.16
Yield (bu./planted acre)	91.80	90.00	95.70	106.30	116.00	98.50	115.68	120.06	81.02	108.66	121.96	126.25	125.69	77.19	119.47	122.71

Note: Survey base changed in 1986.

Table 3A--Corn production cash costs and returns, Northeast, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct Government payments):																
Corn	228.87	204.64	184.04	224.83	262.65	274.18	241.99	214.90	272.93	313.71	268.95	160.41	158.08	214.14	256.28	272.58
Total, gross value of production	228.87	204.64	184.04	224.83	262.65	274.18	241.99	214.90	272.93	313.71	268.95	160.41	158.08	214.14	256.28	272.58
Cash expenses:																
Seed	8.22	9.15	10.61	11.23	12.42	13.42	14.60	14.56	14.22	16.16	17.46	19.56	19.34	19.46	22.09	20.83
Fertilizer	43.06	33.87	39.01	39.08	42.03	52.48	56.82	47.90	44.19	46.40	45.63	38.59	36.67	43.78	48.86	43.43
Lime and gypsum	0	2.07	2.06	1.25	1.35	1.49	1.63	1.38	8.32	8.81	8.72	6.49	7.05	6.43	6.91	7.25
Chemicals	6.65	10.71	9.59	14.05	14.33	15.21	16.55	18.14	19.05	19.47	19.50	18.19	18.17	18.47	19.33	20.30
Custom operations	3.98	4.52	4.67	5.50	5.88	6.37	6.95	8.11	7.93	8.47	11.28	8.44	8.29	6.73	9.26	9.02
Fuel, lube, and electricity	4.86	5.43	5.58	6.48	10.00	13.25	16.04	14.07	12.21	11.86	12.79	9.32	9.71	9.71	11.40	12.10
Repairs	6.12	6.31	6.04	6.91	7.71	8.33	9.78	10.58	10.25	12.27	12.08	9.92	9.76	9.65	11.36	11.33
Hired labor	3.22	2.79	3.16	3.39	3.63	3.81	4.33	4.20	3.99	4.41	4.61	6.69	6.64	6.83	7.42	7.42
Drying	3.96	4.43	4.55	5.28	5.71	5.95	8.28	5.19	4.64	5.26	6.40	2.08	2.07	1.77	2.37	3.06
Miscellaneous	0	0	0	0	0	0	0	0	0.28	0.28	0.28	0	0	0	0	0
Technical services	0	0	0	0	0	0	0	0.15	0.14	0.14	0.14	0.37	0.36	0.36	0.35	0.36
Total, variable cash expenses	80.09	79.28	85.26	93.17	103.06	120.31	134.98	131.56	125.22	133.54	138.90	119.65	118.06	123.30	139.15	135.10
General farm overhead	13.68	14.53	15.49	18.27	26.44	36.05	21.86	14.40	25.19	25.60	20.60	7.94	7.76	8.23	7.96	9.21
Taxes and insurance	4.66	4.61	5.24	5.84	6.58	12.79	14.40	15.25	16.34	17.64	18.69	15.51	15.26	15.47	16.02	15.73
Interest on operating loans	9.09	8.41	8.04	9.01	10.93	13.12	11.13	13.53	12.65	18.91	10.95	2.88	2.03	1.78	1.89	2.03
Interest on real estate	38.57	38.56	38.50	38.49	38.67	38.89	22.81	26.95	18.96	19.00	23.56	5.95	4.82	4.47	4.54	5.05
Total, fixed cash expenses	66.00	66.11	67.27	71.61	82.61	100.85	70.20	70.13	73.14	81.15	73.80	32.28	29.87	29.95	30.41	32.02
Total, cash expenses	146.08	145.39	152.53	164.78	185.67	221.16	205.18	201.69	198.36	214.69	212.70	151.93	147.93	153.25	169.56	167.12
Gross value of production less cash expenses	82.79	59.25	31.51	60.05	76.97	53.02	36.81	13.21	74.57	99.02	56.25	8.48	10.15	60.89	86.72	105.46
Harvest-period price (dollars/bu.)	2.80	2.37	2.24	2.48	2.78	3.50	2.52	2.24	3.70	2.94	2.45	1.74	1.77	3.08	2.60	2.51
Yield (bu./planted acre)	81.70	86.30	82.20	90.60	94.50	78.41	95.98	95.75	73.69	106.55	109.75	92.42	89.20	69.61	98.72	108.79

Table 3B--Corn production economic costs and returns, Northeast, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct Government payments):																
Corn	228.87	204.64	184.04	224.83	262.65	274.18	241.99	214.90	272.93	313.71	268.95	160.41	158.08	214.14	256.28	272.58
Total, gross value of production	228.87	204.64	184.04	224.83	262.65	274.18	241.99	214.90	272.93	313.71	268.95	160.41	158.08	214.14	256.28	272.58
Economic (full ownership) costs:																
Variable cash expenses	80.09	79.28	85.26	93.17	103.06	120.31	134.98	131.56	125.22	133.54	138.90	119.65	118.06	123.30	139.15	135.10
General farm overhead	13.68	14.53	15.49	18.27	26.44	36.05	21.86	14.40	25.19	25.60	20.60	7.94	7.76	8.23	7.96	9.21
Taxes and insurance	4.66	4.61	5.24	5.84	6.58	12.79	14.40	15.25	16.34	17.64	18.69	15.51	15.26	15.47	16.02	15.73
Capital replacement	15.75	14.50	15.81	17.50	19.78	21.32	23.51	26.18	26.54	29.65	30.19	30.67	30.39	31.71	34.99	36.10
Operating capital	2.04	1.72	2.01	2.73	3.90	5.28	6.97	5.37	4.14	4.76	3.98	2.46	2.72	3.37	4.26	3.85
Other nonland capital	4.76	4.10	3.99	4.13	4.58	4.47	4.52	5.20	4.65	6.55	6.32	6.19	6.02	7.22	9.80	10.72
Land	11.66	20.63	20.16	27.83	32.87	27.44	28.60	24.50	27.86	29.83	26.31	24.33	25.70	30.80	33.73	31.94
Unpaid labor	9.18	7.94	8.98	9.63	10.35	10.86	12.34	11.96	11.35	12.54	13.14	13.14	19.93	23.52	24.31	25.04
Subtotal	141.81	147.31	156.95	179.10	207.56	238.52	247.18	234.42	241.29	260.10	258.12	227.70	225.84	243.62	270.22	267.69
Residual returns to management and risk	87.06	57.33	27.09	45.73	55.09	35.66	-5.19	-19.52	31.64	53.61	10.83	-67.29	-67.76	-29.48	-13.94	4.89
Harvest-period price (dollars/bu.)	2.80	2.37	2.24	2.48	2.78	3.50	2.52	2.24	3.70	2.94	2.45	1.74	1.77	3.08	2.60	2.51
Yield (bu./planted acre)	81.70	86.30	82.20	90.60	94.50	78.41	95.98	95.75	73.69	106.55	109.75	92.42	89.20	69.61	98.72	108.79

Note: Survey base changed in 1986.



Table 4A--Corn production cash costs and returns, Plains States, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct Government payments):																
Corn	190.17	170.54	185.46	226.96	268.98	248.63	256.86	232.55	244.74	263.79	257.16	170.09	183.27	274.62	235.64	245.24
Total, gross value of production	190.17	170.54	185.46	226.96	268.98	248.63	256.86	232.55	244.74	263.79	257.16	170.09	183.27	274.62	235.64	245.24
Cash expenses:																
Seed	9.13	10.00	11.53	11.09	11.62	13.41	15.97	16.21	15.38	17.07	17.92	18.52	17.81	17.83	20.06	19.64
Fertilizer	25.81	23.12	20.33	20.00	23.50	23.53	31.67	29.37	28.91	33.44	36.45	25.54	23.02	26.24	29.37	26.40
Lime and gypsum	0.02	0.02	0.03	0.03	0.04	0.04	0.04	0.03	0.03	0.02	0.02	0.32	0.32	0.32	0.32	0.33
Chemicals	9.22	8.27	7.26	8.87	8.84	9.59	10.21	16.21	17.09	16.98	17.17	13.92	13.89	14.12	14.80	15.71
Custom operations	1.95	2.22	2.77	3.27	3.56	3.68	4.08	5.14	5.22	5.13	5.39	5.05	5.13	4.97	5.60	5.77
Fuel, lube, and electricity	10.10	11.32	14.06	16.35	24.88	35.24	42.02	31.95	29.44	25.75	15.83	18.29	20.30	21.78	23.00	23.98
Repairs	7.56	7.81	9.03	10.36	14.42	17.88	21.30	15.19	15.75	15.74	15.83	11.89	11.89	12.49	12.95	13.36
Hired labor	2.43	3.43	4.18	2.96	3.57	4.06	4.65	4.57	4.52	4.84	5.04	9.55	9.51	9.86	10.71	10.70
Purchased irrigation water	0.17	0.20	0.25	0.29	0.31	0.36	0.41	1.35	1.35	1.37	1.36	1.14	1.11	1.15	1.14	1.14
Drying	2.43	2.73	3.39	3.94	4.22	4.14	5.79	4.29	3.79	3.85	5.10	8.84	7.96	7.40	7.22	11.25
Miscellaneous	0	0	0	0	0	0	0	0.28	0.28	0.28	0.28	0.45	0	0	0	0
Technical services	0	0	0	0	0	0	0	0.47	0.49	0.45	0.46	0.45	0.44	0.46	0.47	0.46
Total, variable cash expenses	68.82	69.11	72.83	77.16	94.96	111.93	136.14	125.05	122.25	124.93	135.75	113.45	111.38	116.62	125.64	128.74
General farm overhead	17.24	18.30	19.50	12.86	15.15	14.52	16.89	15.71	17.81	17.77	11.66	8.26	8.00	8.51	8.21	9.50
Taxes and insurance	5.94	5.46	6.37	7.12	7.88	15.52	16.37	14.92	15.39	16.63	17.38	9.75	10.02	10.06	10.02	10.14
Interest on operating loans	10.12	9.35	8.95	10.02	12.16	14.60	24.02	20.25	25.60	26.08	14.02	8.01	5.59	4.99	5.21	5.60
Interest on real estate	13.70	13.70	13.68	13.68	13.74	13.82	21.29	26.68	25.52	22.14	17.12	8.20	6.61	6.13	6.23	6.95
Total, fixed cash expenses	47.00	46.82	48.50	43.68	48.93	58.46	78.57	77.56	84.32	82.62	60.18	34.22	30.22	29.69	29.67	32.17
Total, cash expenses	115.82	115.93	121.33	120.84	143.89	170.39	214.71	202.61	206.57	207.55	195.93	147.67	141.60	146.31	155.31	160.91
Gross value of production less cash expenses	74.34	54.61	64.13	106.12	125.09	78.24	42.15	29.94	38.17	56.24	61.23	22.42	41.67	128.31	80.33	84.33
Harvest-period price (dollars/bu.)	2.57	2.18	2.05	2.28	2.55	3.12	2.41	2.28	3.08	2.55	2.21	1.48	1.59	2.60	2.21	2.19
Yield (bu./planted acre)	74.00	78.40	90.30	99.70	105.50	79.58	106.66	102.12	79.40	103.59	116.53	114.64	115.23	105.48	106.57	112.13

Table 4B--Corn production economic costs and returns, Plains States, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct Government payments):																
Corn	190.17	170.54	185.46	226.96	268.98	248.63	256.86	232.55	244.74	263.79	257.16	170.09	183.27	274.62	235.64	245.24
Total, gross value of production	190.17	170.54	185.46	226.96	268.98	248.63	256.86	232.55	244.74	263.79	257.16	170.09	183.27	274.62	235.64	245.24
Economic (full ownership) costs:																
Variable cash expenses	68.82	69.11	72.83	77.16	94.96	111.93	136.14	125.05	122.25	124.93	135.75	113.45	111.38	116.62	125.64	128.74
General farm overhead	17.24	18.30	19.50	12.86	15.15	14.52	16.89	15.71	17.81	17.77	11.66	8.26	8.00	8.51	8.21	9.50
Taxes and insurance	5.94	5.46	6.37	7.12	7.88	15.52	16.37	14.92	15.39	16.63	17.38	9.75	10.02	10.06	10.02	10.14
Capital replacement	17.21	23.44	24.80	24.61	33.10	41.53	45.70	36.38	38.09	37.27	39.73	29.20	29.46	30.92	32.81	34.17
Operating capital	1.84	1.73	1.58	2.41	3.78	4.97	7.11	5.85	4.59	5.26	4.47	2.41	2.64	3.20	4.02	3.69
Other nonland capital	5.23	6.67	6.30	5.84	7.71	8.54	8.92	6.62	6.18	7.84	7.75	5.52	5.47	6.59	8.40	9.59
Land	44.28	39.30	42.86	55.77	60.90	53.86	50.48	49.44	49.73	56.25	47.69	44.02	49.41	77.94	61.18	66.84
Unpaid labor	6.91	9.78	11.89	8.41	10.17	11.54	13.25	13.00	12.86	13.77	14.34	19.15	17.70	19.05	20.36	20.65
Subtotal	167.47	173.78	186.13	194.19	233.65	262.41	294.86	266.98	266.90	279.72	278.77	251.76	234.08	272.89	270.64	283.32
Residual returns to management and risk	22.70	-3.24	-0.67	32.77	35.34	-13.78	-38.00	-34.43	-22.16	-15.93	-21.61	-61.67	-50.81	1.73	-35.00	-38.08
Harvest-period price (dollars/bu.)	2.57	2.18	2.05	2.28	2.55	3.12	2.41	2.28	3.08	2.55	2.21	1.48	1.59	2.60	2.21	2.19
Yield (bu./planted acre)	74.00	78.40	90.30	99.70	105.50	79.58	106.66	102.12	79.40	103.59	116.53	114.64	115.23	105.48	106.57	112.13

Note: Survey base changed in 1986.

Table 5A--Corn production cash costs and returns, Southeast, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct Government payments):																
Corn	170.09	175.19	97.88	162.12	213.25	176.68	191.38	199.23	205.85	248.12	205.57	120.32	145.21	204.11	246.18	195.16
Total, gross value of production	170.09	175.19	97.88	162.12	213.25	176.68	191.38	199.23	205.85	248.12	205.57	120.32	145.21	204.11	246.18	195.16
Cash expenses:																
Seed	8.22	8.48	9.99	11.76	12.68	13.63	14.52	15.13	15.04	17.02	17.26	19.45	18.98	18.61	21.41	21.23
Fertilizer	49.90	44.65	45.26	44.34	45.44	57.07	60.39	60.75	60.02	62.38	57.42	43.08	40.83	49.70	52.48	48.33
Lime and gypsum	1.99	2.57	2.51	2.75	3.04	3.53	3.48	4.20	4.06	4.35	4.18	3.02	3.15	3.09	3.24	2.85
Chemicals	13.22	9.77	8.80	12.94	13.16	14.15	16.87	16.60	17.49	17.96	18.03	21.62	21.68	21.99	23.08	24.28
Custom operations	5.21	4.80	4.37	6.98	7.82	7.91	9.84	10.34	9.94	10.69	8.37	5.65	5.83	6.37	6.27	6.63
Fuel, lube, and electricity	4.91	6.32	4.03	6.35	9.58	13.86	16.73	15.62	13.08	11.57	12.88	7.09	8.71	8.38	10.58	11.13
Repairs	5.63	6.69	3.98	6.17	6.85	7.85	9.66	10.16	9.50	10.79	10.61	8.88	9.54	9.68	11.88	10.86
Hired labor	2.82	3.01	3.10	3.02	3.36	3.60	3.94	3.98	3.92	4.21	4.36	10.01	9.77	9.64	10.15	10.77
Drying	2.49	3.20	2.05	3.22	3.89	3.44	3.28	3.49	3.18	3.18	3.76	3.52	3.67	3.12	4.66	5.00
Miscellaneous	0	0	0	0	0	0	0.12	0.18	0.18	0.18	0.18	0	0	0	0	0
Technical services	0	0	0	0	0	0	0.20	0.20	0.18	0.19	0.17	0.10	0.09	0.09	0.08	0.09
Total, variable cash expenses	94.39	91.50	84.09	97.53	105.82	125.04	139.03	140.64	135.53	142.52	137.22	122.42	122.25	130.67	143.83	141.17
General farm overhead	8.96	9.52	10.14	10.48	10.06	12.51	9.42	10.99	10.26	10.44	7.38	7.32	7.08	7.64	7.27	8.41
Taxes and insurance	4.60	4.97	5.27	5.50	6.15	6.32	6.54	6.68	6.68	7.47	7.80	7.99	8.42	8.45	9.08	8.61
Interest on operating loans	12.89	11.92	11.40	12.78	15.50	18.61	14.28	17.11	9.96	14.85	5.45	3.24	2.20	1.91	2.05	2.20
Interest on real estate	11.08	11.07	11.06	11.06	11.11	11.17	14.47	24.37	23.03	19.35	16.98	8.26	6.58	6.42	6.20	6.90
Total, fixed cash expenses	37.53	37.49	37.87	39.82	42.81	48.61	44.71	59.15	49.93	52.11	37.61	26.81	24.28	24.42	24.60	26.12
Total, cash expenses	131.92	128.99	121.96	137.34	148.63	173.65	183.74	199.79	185.46	194.63	174.83	149.23	146.53	155.09	168.43	167.29
Gross value of production less cash expenses	38.16	46.20	-24.08	24.78	64.62	3.03	7.64	-0.56	20.39	53.49	30.74	-28.91	-1.32	49.02	77.75	27.87
Harvest-period price (dollars/bu.)	2.75	2.33	2.20	2.44	2.73	3.39	2.62	2.14	3.67	2.79	2.34	1.66	1.79	2.87	2.44	2.43
Yield (bu./planted acre)	61.80	75.20	44.50	66.50	78.10	52.13	73.13	93.29	56.04	88.90	87.79	72.46	81.02	71.12	101.08	80.45

Table 5B--Corn production economic costs and returns, Southeast, 1975-90

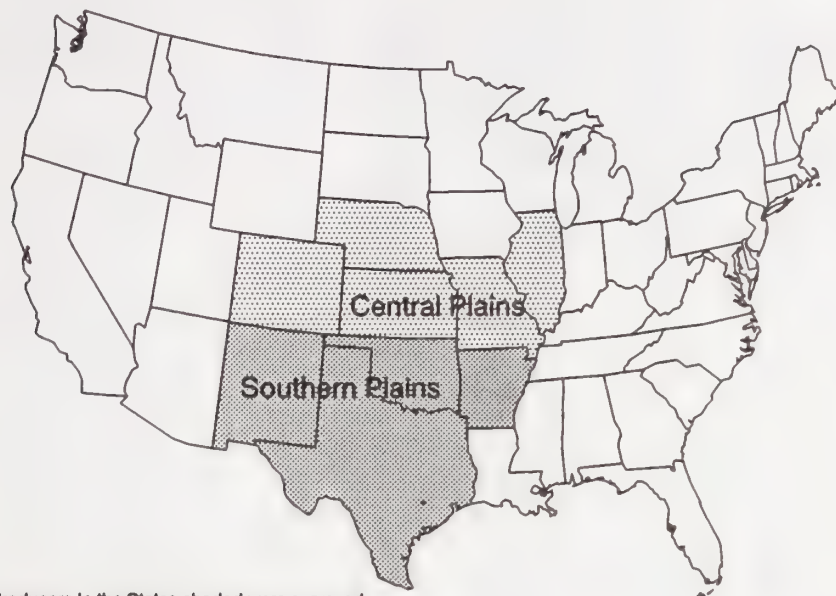
Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct Government payments):																
Corn	170.09	175.19	97.88	162.12	213.25	176.68	191.38	199.23	205.85	248.12	205.57	120.32	145.21	204.11	246.18	195.16
Total, gross value of production	170.09	175.19	97.88	162.12	213.25	176.68	191.38	199.23	205.85	248.12	205.57	120.32	145.21	204.11	246.18	195.16
Economic (full ownership) costs:																
Variable cash expenses	94.39	91.50	84.09	97.53	105.82	125.04	139.03	140.64	135.53	142.52	137.22	122.42	122.25	130.67	143.83	141.17
General farm overhead	8.96	9.52	10.14	10.48	10.06	12.51	9.42	10.99	10.26	10.44	7.38	7.32	7.08	7.64	7.27	8.41
Taxes and insurance	4.60	4.97	5.27	5.50	6.15	6.32	6.54	6.68	6.68	7.47	7.80	7.99	8.42	8.45	9.08	8.61
Capital replacement	14.32	17.08	15.47	16.28	18.14	19.62	21.25	23.19	22.93	24.77	24.05	22.93	23.64	24.31	28.39	27.54
Operating capital	2.67	2.02	2.17	3.01	4.19	5.86	7.44	5.90	4.71	5.37	4.10	2.59	2.84	3.51	4.34	4.01
Other nonland capital	4.12	4.60	3.72	3.66	4.00	3.95	3.86	4.05	3.48	4.82	4.51	4.32	4.44	5.30	7.63	7.79
Land	29.18	30.93	21.17	30.51	40.25	36.40	39.52	36.70	33.48	42.84	35.43	18.60	26.41	34.31	43.75	32.75
Unpaid labor	8.01	8.56	8.81	8.59	9.57	10.23	11.20	11.31	11.16	11.98	12.41	13.43	19.36	21.43	21.30	22.49
Subtotal	166.26	169.19	150.83	175.57	198.18	219.95	238.26	239.47	228.23	250.21	232.90	209.50	214.44	235.62	265.29	252.77
Residual returns to management and risk	3.83	6.00	-52.95	-13.44	15.07	-43.25	-46.88	-40.24	-22.38	-2.09	-27.33	-89.18	-69.23	-31.51	-19.11	-57.61
Harvest-period price (dollars/bu.)	2.75	2.33	2.20	2.44	2.73	3.39	2.62	2.14	3.67	2.79	2.34	1.66	1.79	2.87	2.44	2.43
Yield (bu./planted acre)	61.80	75.20	44.50	66.50	78.10	52.13	73.13	93.29	56.04	88.90	87.79	72.46	81.02	71.12	101.08	80.45

Note: Survey base changed in 1986.



Figure 7

## Sorghum Production Regions



Producers in the States shaded were surveyed about production practices and costs of production. Production regions are defined for each crop based on common cultural practices.

Figure 8

## Sorghum production costs per planted acre, 1990

Dollars

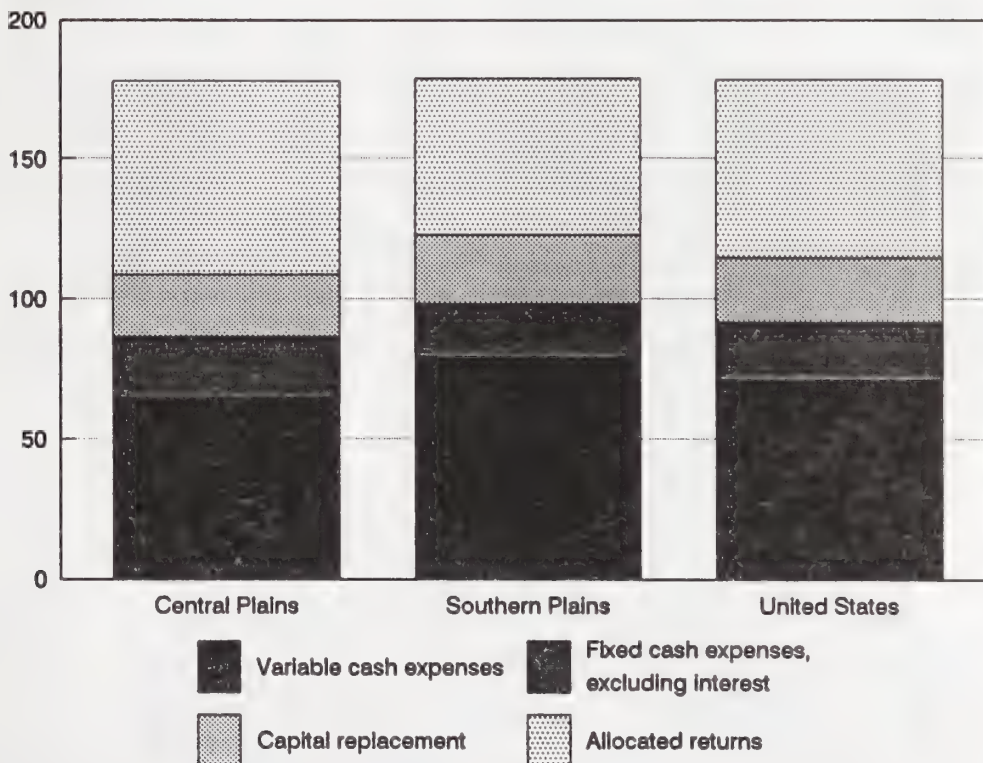


Table 6A--U.S. grain sorghum production cash costs and returns, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct Government payments): Sorghum	108.91	93.69	98.79	152.12	144.15	131.17	141.50	121.36	131.58	123.73	124.99	91.57	96.18	141.59	105.24	118.80
Total, gross value of production	108.91	93.69	98.79	152.12	144.15	131.17	141.50	121.36	131.58	123.73	124.99	91.57	96.18	141.59	105.24	118.80
Cash expenses:																
Seed	3.10	3.18	3.56	2.66	2.49	2.74	3.18	3.70	3.89	3.76	3.81	3.80	4.74	3.59	5.22	5.43
Fertilizer	17.01	12.63	12.36	12.33	14.87	15.62	18.64	20.15	19.12	20.49	20.34	17.65	15.33	17.19	20.15	17.71
Chemicals	3.97	3.33	3.08	6.25	6.22	6.70	7.26	8.64	9.26	9.41	9.71	9.73	9.87	10.22	9.61	10.11
Custom operations	1.73	1.86	2.38	2.50	2.69	2.93	3.45	3.95	3.75	3.54	3.90	3.94	3.96	3.88	4.13	4.29
Fuel, lube, and electricity	6.69	7.10	9.01	9.33	13.44	17.30	20.05	19.12	17.08	14.80	14.52	10.03	11.23	11.01	13.57	14.78
Repairs	6.61	6.47	7.65	7.81	9.34	10.52	11.76	10.05	10.30	9.58	7.75	7.62	7.72	7.95	10.79	11.09
Hired labor	1.88	2.11	2.33	2.01	2.29	2.36	2.67	2.73	2.63	2.53	2.39	2.54	2.47	2.49	7.42	7.45
Purchased irrigation water	0.09	0.10	0.12	0.13	0.08	0.09	0.25	0.35	0.30	0.31	0.13	0.13	0.11	0.10	0.38	0.39
Miscellaneous	0	0	0	0	0	0	0	0.30	0.26	0.27	0	0	0	0	0	0
Technical services	0	0	0	0	0	0	0.18	0.17	0.17	0.17	0.06	0.06	0.06	0.07	0.06	0.06
Total, variable cash expenses	41.07	36.78	40.49	43.02	51.42	58.26	67.44	69.16	66.76	64.87	62.61	55.50	55.49	56.50	71.33	71.31
General farm overhead	5.49	5.83	6.19	6.61	7.26	7.71	9.13	8.11	7.65	7.68	5.67	6.01	6.83	9.40	6.32	7.27
Taxes and insurance	4.89	4.86	5.53	5.92	6.71	8.03	8.47	7.45	7.82	8.34	7.51	7.92	8.32	8.72	13.15	13.18
Interest on operating loans	5.04	4.66	4.45	4.99	6.06	7.27	12.83	10.69	10.43	10.59	6.63	5.51	4.39	5.20	3.25	3.42
Interest on real estate	7.15	7.15	7.14	7.14	7.17	7.21	10.51	11.50	10.33	9.35	7.08	5.95	6.93	7.79	4.84	5.36
Total, fixed cash expenses	22.57	22.50	23.31	24.66	27.20	30.22	40.94	37.75	36.23	35.96	26.89	25.39	26.47	31.11	27.56	29.23
Total, cash expenses	63.64	59.28	63.80	67.68	78.62	88.48	108.38	106.91	102.99	100.83	89.50	80.89	81.96	87.61	98.89	100.54
Gross value of production less cash expenses	45.26	34.41	34.99	84.44	65.54	42.69	33.12	14.45	28.59	22.90	35.49	10.68	14.22	53.98	6.35	18.26
Harvest-period price (dollars/bu.)	2.38	2.04	1.83	2.86	2.35	3.04	2.25	2.11	2.84	2.34	1.90	1.37	1.40	2.36	2.07	2.07
Yield (bu./planted acre)	45.80	46.00	54.10	53.20	61.40	43.16	62.95	57.64	46.29	52.81	65.89	66.91	68.62	60.07	50.84	54.39

Table 6B--U.S. grain sorghum production economic costs and returns, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct Government payments): Sorghum	108.91	93.69	98.79	152.12	144.15	131.17	141.50	121.36	131.58	123.73	124.99	91.57	96.18	141.59	105.24	118.80
Total, gross value of production	108.91	93.69	98.79	152.12	144.15	131.17	141.50	121.36	131.58	123.73	124.99	91.57	96.18	141.59	105.24	118.80
Economic (full ownership) costs:																
Variable cash expenses	41.07	36.78	40.49	43.02	51.42	58.26	67.44	69.16	66.76	64.87	62.61	55.50	55.49	56.50	71.33	71.31
General farm overhead	5.49	5.83	6.19	6.61	7.26	7.71	9.13	8.11	7.65	7.68	5.67	6.01	6.83	9.40	6.32	7.27
Taxes and insurance	4.89	4.86	5.53	5.92	6.71	8.03	8.47	7.45	7.82	8.34	7.51	7.92	8.32	8.72	13.15	13.18
Capital replacement	14.09	17.28	17.91	18.58	22.61	25.67	27.26	23.87	26.74	23.93	22.56	23.04	23.13	24.46	22.77	23.19
Operating capital	1.16	0.89	0.92	1.21	1.83	2.38	3.33	2.90	2.29	2.42	2.17	1.32	1.47	1.73	2.87	2.66
Other nonland capital	4.03	4.62	4.28	4.15	4.96	5.15	4.99	4.10	4.04	4.73	4.11	4.19	4.18	5.10	15.45	16.20
Land	21.98	18.28	19.46	23.11	31.81	28.61	31.51	28.23	31.18	28.86	33.79	25.51	26.47	37.20	27.46	27.74
Unpaid labor	7.53	8.42	9.34	8.06	9.17	9.46	10.69	10.92	10.52	10.14	9.56	10.17	9.88	9.98	16.95	17.10
Subtotal	100.25	96.95	104.13	110.67	135.78	145.27	162.82	154.74	157.00	150.97	147.98	133.66	135.77	153.09	176.30	178.65
Residual returns to management and risk	8.66	-3.26	-5.34	41.46	8.38	-14.10	-21.32	-33.38	-25.42	-27.24	-22.99	-42.09	-39.59	-11.50	-71.06	-59.85
Harvest-period price (dollars/bu.)	2.38	2.04	1.83	2.86	2.35	3.04	2.25	2.11	2.84	2.34	1.90	1.37	1.40	2.36	2.07	2.07
Yield (bu./planted acre)	45.80	46.00	54.10	53.20	61.40	43.16	62.95	57.64	46.29	52.81	65.89	66.91	68.62	60.07	50.84	57.39

Note: Survey base changed in 1985 and 1989.



Table 7A--Grain sorghum production cash costs and returns, Central Plains, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct Government payments):																
Sorghum	101.01	89.64	107.86	160.95	155.11	131.23	141.56	126.18	127.27	120.36	126.18	94.60	98.65	139.05	104.39	124.25
Total, gross value of production	101.01	89.64	107.86	160.95	155.11	131.23	141.56	126.18	127.27	120.36	126.18	94.60	98.65	139.05	104.39	124.25
Cash expenses:																
Seed	2.74	2.99	3.59	2.38	2.19	2.52	2.83	3.27	3.50	3.55	3.52	3.55	3.78	3.39	4.90	5.05
Fertilizer	16.43	12.15	12.34	12.39	15.06	16.51	17.57	20.85	19.04	21.79	20.64	18.02	15.71	17.46	19.63	17.47
Chemicals	4.67	4.47	4.06	6.39	6.44	6.93	7.53	9.87	10.26	10.46	11.76	11.80	11.67	11.94	11.09	11.67
Custom operations	0.93	1.04	1.51	1.54	1.69	1.96	2.20	2.60	2.57	2.53	2.84	2.85	2.95	2.95	3.01	3.10
Fuel, lube, and electricity	4.42	4.84	7.01	7.03	10.73	14.17	18.96	16.13	14.79	12.14	11.28	8.02	9.11	8.67	10.29	11.83
Repairs	5.18	5.23	7.05	6.98	8.72	10.20	12.97	9.34	9.56	9.03	7.18	7.09	7.25	7.33	10.31	10.71
Hired labor	1.41	1.63	1.93	1.69	1.97	2.04	2.42	2.28	2.27	2.27	1.91	2.04	1.96	2.03	5.36	5.27
Purchased irrigation water	0	0	0	0	0	0	0	0.10	0.09	0.09	0	0	0	0	0.01	0.01
Miscellaneous	0	0	0	0	0	0	0	0.15	0.13	0.14	0	0	0	0	0	0
Technical services	0	0	0	0	0	0	0	0.25	0.24	0.21	0.09	0.08	0.09	0.09	0.07	0.08
Total, variable cash expenses	35.78	32.35	37.49	38.40	46.80	54.33	64.48	64.85	62.45	62.21	59.22	53.45	52.52	53.86	64.67	65.19
General farm overhead	5.79	6.13	6.53	6.52	7.64	7.37	8.75	8.77	7.76	7.75	5.25	4.86	7.30	9.58	6.25	7.15
Taxes and insurance	4.44	4.55	5.22	5.92	6.80	9.32	10.56	9.40	9.53	9.82	8.58	9.03	9.31	9.60	14.23	14.40
Interest on operating loans	5.13	4.75	4.54	5.09	6.17	7.41	12.41	11.17	11.10	11.32	6.44	4.76	3.98	4.79	3.87	4.06
Interest on real estate	6.96	6.96	6.95	6.95	6.98	7.02	10.86	15.29	11.93	10.64	8.37	5.94	8.15	8.73	5.61	6.24
Total, fixed cash expenses	22.33	22.39	23.24	24.47	27.59	31.12	42.58	44.63	40.32	39.53	28.64	24.59	28.74	32.70	29.96	31.85
Total, cash expenses	58.11	54.74	60.73	62.87	74.39	85.45	107.06	109.48	102.77	101.74	87.86	78.04	81.26	86.56	94.63	97.04
Gross value of production less cash expenses	42.90	34.91	47.13	98.08	80.73	45.78	34.50	16.70	24.50	18.62	38.32	16.56	17.39	52.49	9.76	27.21
Harvest-period price (dollars/bu.)	2.28	1.95	1.75	2.74	2.25	2.91	2.12	2.02	2.78	2.22	1.80	1.26	1.36	2.29	1.98	1.93
Yield (bu./planted acre)	44.30	45.90	61.60	58.70	68.90	45.03	66.65	62.59	45.73	54.29	70.21	75.28	72.69	60.68	52.72	64.38

Table 7B--Grain sorghum production economic costs and returns, Central Plains, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct Government payments):																
Sorghum	101.01	89.64	107.86	160.95	155.11	131.23	141.56	126.18	127.27	120.36	126.18	94.60	98.65	139.05	104.39	124.25
Total, gross value of production	101.01	89.64	107.86	160.95	155.11	131.23	141.56	126.18	127.27	120.36	126.18	94.60	98.65	139.05	104.39	124.25
Economic (full ownership) costs:																
Variable cash expenses	35.78	32.35	37.49	38.40	46.80	54.33	64.48	64.85	62.45	62.21	59.22	53.45	52.52	53.86	64.67	65.19
General farm overhead	5.79	6.13	6.53	6.52	7.64	7.37	8.75	8.77	7.76	7.75	5.25	4.86	7.30	9.58	6.25	7.15
Taxes and insurance	4.44	4.55	5.22	5.92	6.80	9.32	10.56	9.40	9.53	9.82	8.58	9.03	9.31	9.60	14.23	14.40
Capital replacement	11.23	13.20	14.66	18.32	22.59	26.19	31.00	24.17	28.20	24.14	21.93	22.68	22.70	22.98	21.48	22.23
Operating capital	0.95	0.70	0.80	1.11	1.70	2.25	3.06	2.75	2.23	2.37	2.12	1.31	1.43	1.71	2.60	2.43
Other nonland capital	3.35	3.68	3.65	4.27	5.17	5.35	5.94	4.43	4.42	4.98	4.17	4.30	4.25	4.96	16.09	17.09
Land	23.85	20.61	25.36	26.74	38.36	31.13	31.13	29.16	30.24	27.89	34.40	26.32	27.14	36.67	30.74	30.51
Unpaid labor	5.64	6.52	7.74	6.75	7.87	8.18	9.66	9.14	9.07	9.10	7.63	8.17	7.84	8.14	18.92	19.25
Subtotal	91.03	87.74	101.45	108.03	136.92	144.12	164.58	152.67	153.90	148.26	143.30	130.12	132.49	147.50	174.98	178.25
Residual returns to management and risk	9.98	1.90	6.41	52.92	18.19	-12.89	-23.02	-26.49	-26.63	-27.90	-17.12	-35.52	-33.84	-8.45	-70.59	-54.00
Harvest-period price (dollars/bu.)	2.28	1.95	1.75	2.74	2.25	2.91	2.12	2.02	2.78	2.22	1.80	1.26	1.36	2.29	1.98	1.93
Yield (bu./planted acre)	44.30	45.90	61.60	58.70	68.90	45.03	66.65	62.59	45.73	54.29	70.21	75.28	72.69	60.68	52.72	64.38

Note: Survey base changed in 1985 and 1989.

Table 8A--Grain sorghum production cash costs and returns, Southern Plains, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct Government payments): Sorghum	114.80	96.20	84.52	136.55	127.15	126.81	139.64	115.87	135.47	128.49	123.15	86.95	91.48	147.03	105.25	107.78
Total, gross value of production	114.80	96.20	84.52	136.55	127.15	126.81	139.64	115.87	135.47	128.49	123.15	86.95	91.48	147.03	105.25	107.78
Cash expenses:																
Seed	3.20	3.17	3.39	2.81	2.73	2.87	3.49	4.06	4.30	4.05	4.24	4.18	6.58	4.00	5.67	5.93
Fertilizer	16.51	12.36	11.76	11.50	14.05	13.66	19.77	19.30	19.12	18.06	19.88	17.07	14.62	16.60	20.87	18.05
Chemicals	3.16	2.27	1.90	5.96	5.88	6.30	6.81	7.37	7.91	7.54	6.52	6.58	6.45	6.54	7.57	7.99
Custom operations	2.81	2.95	3.14	3.46	3.74	4.02	4.82	5.17	5.07	5.17	5.56	5.60	5.85	5.84	5.68	5.99
Fuel, lube, and electricity	10.18	10.53	11.13	12.09	16.55	21.20	21.00	21.93	19.79	19.31	19.56	13.08	15.29	16.02	18.12	18.77
Repairs	8.83	8.43	8.30	8.89	10.09	10.93	10.03	10.72	11.19	10.48	8.64	8.42	8.61	9.29	11.46	11.60
Hired labor	2.07	2.40	2.66	2.28	2.62	2.70	2.90	3.12	3.03	2.93	3.14	3.30	3.44	3.48	10.28	10.38
Purchased irrigation water	0	0	0	0	0	0	0.42	0.58	0.50	0.52	0.35	0.34	0.34	0.34	0.88	0.90
Miscellaneous	0	0	0	0	0	0	0.01	0.49	0.42	0.44	0	0	0	0	0	0
Technical services	0	0	0	0	0	0	0.42	0.09	0.09	0.08	0.02	0.02	0.02	0.02	0.03	0.04
Total, variable cash expenses	46.75	42.10	42.27	46.99	55.66	61.68	69.67	72.84	71.42	68.59	67.91	58.59	61.20	62.13	80.56	79.55
General farm overhead	5.02	5.33	5.68	6.47	6.59	7.92	9.48	7.31	7.37	7.41	6.32	7.78	5.92	9.02	6.43	7.44
Taxes and insurance	5.23	5.09	5.86	5.90	6.60	5.82	5.33	5.38	5.53	5.66	5.86	6.21	6.43	6.88	11.65	11.53
Interest on operating loans	4.69	4.34	4.15	4.65	5.64	6.77	13.27	10.10	9.47	9.23	6.92	6.67	5.16	6.06	2.40	2.56
Interest on real estate	6.94	6.94	6.93	6.93	6.96	7.00	9.78	7.68	8.11	6.94	5.07	5.97	4.61	5.77	3.76	4.18
Total, fixed cash expenses	21.89	21.70	22.62	23.95	25.79	27.51	37.86	30.47	30.48	29.24	24.17	26.63	22.12	27.73	24.24	25.71
Total, cash expenses	68.64	63.80	64.89	70.93	81.45	89.19	107.53	103.31	101.90	97.83	92.08	85.22	83.32	89.86	104.80	105.26
Gross value of production less cash expenses	46.16	32.39	19.63	65.62	45.70	37.62	32.11	12.56	33.57	30.66	31.07	1.73	8.16	57.17	0.45	2.52
Harvest-period price (dollars/bu.)	2.50	2.14	1.92	3.00	2.46	3.20	2.42	2.21	2.90	2.57	2.08	1.61	1.50	2.50	2.20	2.32
Yield (bu./planted acre)	46.00	45.00	44.10	45.50	51.60	39.60	57.60	52.47	46.65	49.94	59.17	54.15	60.87	58.76	47.84	46.46

Table 8B--Grain sorghum production economic costs and returns, Southern Plains, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct Government payments): Sorghum	114.80	96.20	84.52	136.55	127.15	126.81	139.64	115.87	135.47	128.49	123.15	86.95	91.48	147.03	105.25	107.78
Total, gross value of production	114.80	96.20	84.52	136.55	127.15	126.81	139.64	115.87	135.47	128.49	123.15	86.95	91.48	147.03	105.25	107.78
Economic (full ownership) costs:																
Variable cash expenses	46.75	42.10	42.27	46.99	55.66	61.68	69.67	72.84	71.42	68.59	67.91	58.59	61.20	62.13	80.56	79.55
General farm overhead	5.02	5.33	5.68	6.47	6.59	7.92	9.48	7.31	7.37	7.41	6.32	7.78	5.92	9.02	6.43	7.44
Taxes and insurance	5.23	5.09	5.86	5.90	6.60	5.82	5.33	5.38	5.53	5.66	5.86	6.21	6.43	6.88	11.65	11.53
Capital replacement	16.08	20.63	21.71	19.01	22.52	24.84	21.98	23.44	24.72	23.40	23.54	23.60	23.95	27.61	24.56	24.49
Operating capital	1.24	0.99	1.01	1.28	1.93	2.46	3.60	3.02	2.33	2.48	2.24	1.33	1.54	1.77	3.24	2.97
Other nonland capital	4.28	5.14	4.83	3.95	4.60	4.85	3.67	3.74	3.53	4.26	4.01	4.03	4.05	5.38	14.56	15.01
Land	18.58	14.84	12.66	17.21	24.28	24.59	31.87	26.99	31.94	30.18	32.85	24.29	25.19	33.34	22.92	24.00
Unpaid labor	8.27	9.59	10.64	9.10	10.47	10.79	11.60	12.50	12.94	11.74	12.54	13.21	13.78	13.91	14.21	14.20
Subtotal	105.47	103.72	104.66	109.91	132.65	142.95	157.20	155.21	158.98	153.71	155.27	139.04	142.06	164.99	178.13	179.19
Residual returns to management and risk	9.33	-7.52	-20.15	26.64	-5.50	-16.14	-17.56	-39.34	-23.51	-25.22	-32.12	-52.09	-50.58	-17.96	-72.88	-71.41
Harvest-period price (dollars/bu.)	2.50	2.14	1.92	3.00	2.46	3.20	2.42	2.21	2.90	2.57	2.08	1.61	1.50	2.50	2.20	2.32
Yield (bu./planted acre)	46.00	45.00	44.10	45.50	51.60	39.60	57.60	52.47	46.65	49.94	59.17	54.15	60.87	58.76	47.84	46.46

Note: Survey base changed in 1985 and 1989.



Figure 9

## Oats Production Regions

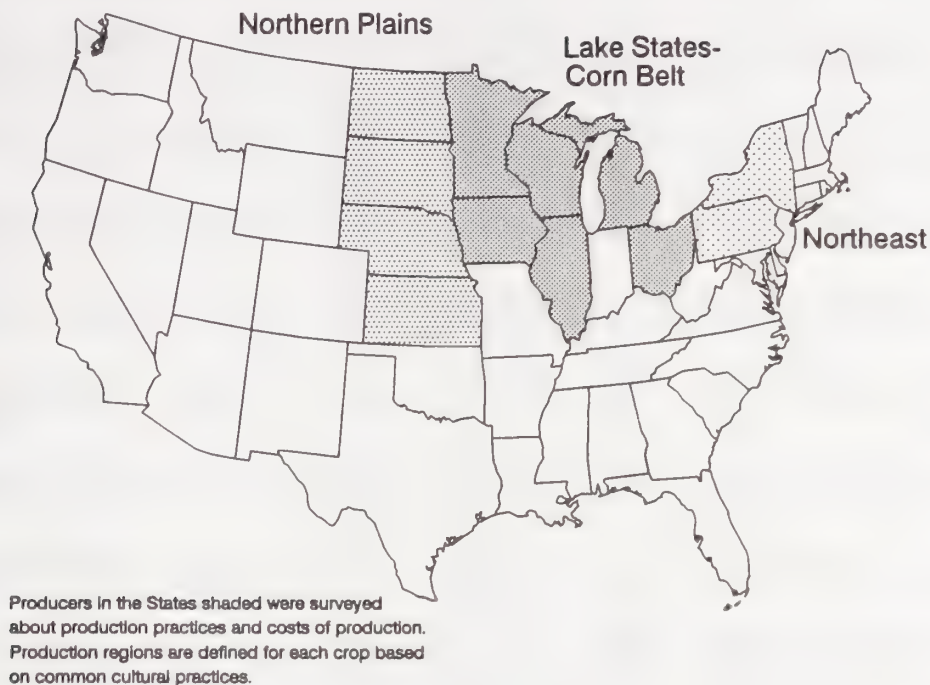


Figure 10

## Oats production costs per planted acre, 1990

Dollars

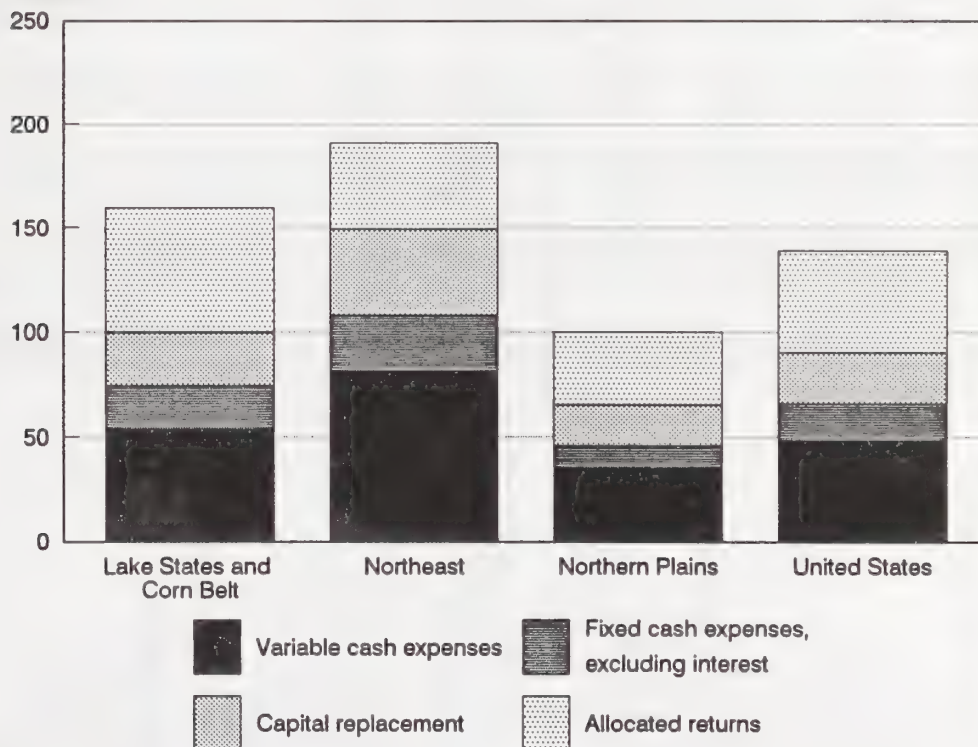


Table 9A--U.S. oats production cash costs and returns, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct Government payments):																
Oats	60.99	60.23	56.70	57.60	66.32	74.28	91.15	78.33	70.82	83.96	55.61	48.68	70.54	94.38	81.69	66.88
Oats straw	29.84	31.11	38.42	32.57	21.38	27.24	30.22	25.44	23.78	20.78	23.82	20.26	10.73	17.74	15.63	14.02
Total, gross value of production	90.83	91.34	95.12	90.17	87.70	101.52	121.37	103.77	94.60	104.74	79.43	68.94	81.27	112.12	97.32	80.90
Cash expenses:																
Seed	3.28	3.18	2.79	4.60	4.90	5.63	7.13	7.15	5.71	8.82	8.47	5.49	6.77	8.38	9.56	8.58
Fertilizer	7.42	5.57	5.20	6.85	7.55	9.26	9.26	11.17	9.91	10.81	10.01	9.22	11.39	13.27	12.38	11.02
Lime and gypsum	0.59	0.61	0.63	0.78	0.93	1.08	1.10	1.35	1.31	1.42	1.42	1.71	1.55	1.59	1.44	1.53
Chemicals	0.31	0.29	0.26	0.78	0.80	0.87	0.95	1.23	1.34	1.38	1.23	1.35	1.01	1.06	1.10	1.10
Custom operations	1.97	1.96	2.84	2.82	3.05	3.49	3.75	4.21	4.04	4.10	3.01	2.48	4.39	4.55	6.39	6.96
Fuel, lube, and electricity	3.29	3.22	4.63	4.54	7.20	10.34	11.70	11.89	10.53	8.80	8.76	6.78	5.60	5.66	6.81	7.60
Repairs	4.76	4.30	5.76	5.57	6.01	6.79	7.71	7.59	7.86	7.54	6.42	7.59	5.28	5.63	6.78	6.90
Hired labor	0.63	0.70	0.78	1.18	1.28	1.40	1.53	1.61	1.55	1.63	1.51	1.89	3.81	4.10	4.54	4.95
Miscellaneous	0.69	0.67	0.67	0.70	0.77	1.24	1.22	0.96	0.96	0.98	0.97	0.61	0	0	0	0
Technical services	0	0	0	0	0	0	0	0.06	0.06	0.06	0.06	0.07	0	0	0	0
Total, variable cash expenses	22.94	20.48	23.55	27.80	32.49	40.10	44.35	47.23	43.27	45.54	41.85	37.19	39.80	44.24	49.00	48.64
General farm overhead	2.86	3.30	3.42	4.65	6.04	5.73	6.57	4.67	5.18	5.32	3.90	4.67	3.32	3.33	3.13	3.64
Taxes and insurance	3.94	4.24	4.79	5.29	5.84	10.57	10.65	12.21	12.35	13.58	13.53	15.88	12.35	12.72	13.23	13.51
Interest on operating loans	3.16	2.92	2.79	3.13	3.80	4.56	8.31	5.79	6.80	7.51	4.64	4.64	2.16	1.07	1.15	1.22
Interest on real estate	6.59	6.58	6.57	6.57	6.60	6.64	9.51	7.38	7.27	7.15	7.05	5.66	2.14	2.28	2.29	2.52
Total, fixed cash expenses	16.55	17.05	17.58	19.64	22.28	27.50	35.04	30.05	31.60	33.56	29.12	29.79	19.97	19.40	19.80	20.89
Total, cash expenses	39.49	37.53	41.13	47.44	54.77	67.60	79.39	77.28	74.87	79.10	70.97	66.98	59.77	63.64	68.80	69.53
Gross value of production less cash expenses	51.34	53.81	53.98	42.72	32.93	33.92	41.98	26.49	19.73	25.64	8.46	1.96	21.50	48.48	28.52	11.37
Harvest-period price (dollars/bu.)	1.40	1.49	1.05	1.15	1.30	1.49	1.73	1.42	1.45	1.65	1.23	0.86	1.31	2.66	1.52	1.09
Yield (bu./planted acre)	43.60	40.30	53.80	50.10	50.90	49.92	52.84	55.25	48.92	50.82	45.14	56.78	53.95	35.54	53.74	61.16

Table 9B--U.S. oats production economic costs and returns, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct Government payments):																
Oats	60.99	60.23	56.70	57.60	66.32	74.28	91.15	78.33	70.82	83.96	55.61	48.68	70.54	94.38	81.69	66.88
Oats straw	29.84	31.11	38.42	32.57	21.38	27.24	30.22	25.44	23.78	20.78	23.82	20.26	10.73	17.74	15.63	14.02
Total, gross value of production	90.83	91.34	95.12	90.17	87.70	101.52	121.37	103.77	94.60	104.74	79.43	68.94	81.27	112.12	97.32	80.90
Economic (full ownership) costs:																
Variable cash expenses	22.94	20.48	23.55	27.80	32.49	40.10	44.35	47.23	43.27	45.54	41.85	37.19	39.80	44.24	49.00	48.64
General farm overhead	2.86	3.30	3.42	4.65	6.04	5.73	6.57	4.67	5.18	5.32	3.90	4.67	3.32	3.33	3.13	3.64
Taxes and insurance	3.94	4.24	4.79	5.29	5.84	10.57	10.65	12.21	12.35	13.58	13.53	15.88	12.35	12.72	13.23	13.51
Capital replacement	8.91	10.34	11.46	14.05	15.25	16.60	18.39	22.05	22.98	23.42	19.17	27.45	19.65	21.12	24.93	24.30
Operating capital	0.40	0.33	0.34	0.58	0.86	1.21	1.60	1.40	1.03	1.23	0.94	0.66	0.66	0.83	0.95	0.88
Nonland capital	2.66	2.89	2.86	3.27	3.49	3.45	3.47	4.48	4.18	4.33	4.15	5.98	3.72	4.66	6.95	7.48
Land	15.44	13.84	14.81	19.45	22.70	19.39	23.52	26.82	24.25	26.35	17.66	14.63	20.99	28.24	26.16	23.85
Unpaid labor	4.63	5.10	5.68	8.69	9.41	10.23	11.21	11.79	11.57	11.93	11.03	13.87	14.23	14.92	15.67	16.36
Subtotal	61.78	60.52	66.92	83.78	96.08	107.28	119.76	130.66	124.61	132.70	112.04	120.27	114.72	130.06	140.02	138.66
Residual returns to management and risk	29.05	30.82	28.20	6.38	-8.38	-5.76	1.61	-26.89	-30.01	-27.96	-32.61	-51.33	-33.45	-17.94	-42.70	-57.76
Harvest-period price (dollars/bu.)	1.40	1.49	1.05	1.15	1.30	1.49	1.73	1.42	1.45	1.65	1.23	0.86	1.31	2.66	1.52	1.09
Yield (bu./planted acre)	43.60	40.30	53.80	50.10	50.90	49.92	52.84	55.25	48.92	50.82	45.14	56.78	53.95	35.54	53.74	61.16

Note: Survey base changed in 1988.



Table 10A--Oats production cash costs and returns, Lake States and Corn Belt, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct Government payments):																
Oats	66.98	71.71	65.72	60.29	70.83	84.63	103.47	79.99	80.06	93.19	60.68	52.52	75.93	106.26	101.11	73.04
Oats straw	39.84	45.03	54.14	41.44	24.70	31.32	33.23	39.08	38.70	30.02	34.36	28.25	13.37	22.89	20.52	17.46
Total, gross value of production	106.82	116.74	119.85	101.73	95.53	115.95	136.70	119.07	118.76	123.21	95.04	80.77	89.30	129.15	121.63	90.50
Cash expenses:																
Seed	3.10	2.98	2.65	5.04	5.45	6.14	7.54	7.75	6.37	10.26	9.65	6.20	7.55	9.14	10.72	9.30
Fertilizer	6.62	5.20	4.92	7.73	8.32	10.42	10.83	12.54	11.33	12.16	10.75	10.11	13.16	14.97	13.79	12.42
Lime and gypsum	1.07	0.97	1.01	1.26	1.50	1.64	1.80	1.40	1.47	1.60	1.56	1.86	1.85	1.80	1.64	1.75
Chemicals	0.23	0.31	0.28	0.66	0.66	0.73	0.80	1.25	1.39	1.49	1.17	1.39	0.88	0.91	0.94	0.97
Custom operations	1.96	2.11	2.97	2.67	2.79	3.32	3.55	5.52	5.48	5.15	3.75	2.97	5.67	5.60	6.17	9.21
Fuel, lube, and electricity	4.20	4.45	6.23	5.52	8.49	12.15	13.70	13.52	12.34	10.11	9.91	7.85	6.38	6.25	7.29	8.02
Repairs	5.43	5.31	6.93	6.05	6.61	7.56	8.39	7.59	8.12	7.58	6.52	7.78	5.05	5.29	6.30	5.83
Hired labor	0.66	0.74	0.82	1.38	1.53	1.63	1.79	1.93	1.88	1.94	1.76	2.22	4.98	5.00	5.02	5.83
Miscellaneous	0.89	0.87	0.88	0.91	0.99	1.55	1.54	1.34	1.34	1.36	1.35	0.71	0	0	0	0
Technical services	0	0	0	0	0	0	0	0.08	0.08	0.08	0.08	0.09	0	0	0	0
Total, variable cash expenses	24.15	22.93	26.68	31.22	36.34	45.14	49.94	52.72	49.80	51.73	46.50	41.18	45.52	48.96	51.87	53.72
General farm overhead	3.79	4.34	4.62	5.09	6.77	5.76	7.46	5.15	5.48	5.61	4.52	4.95	3.22	3.24	3.15	3.71
Taxes and insurance	3.92	4.33	4.88	5.44	6.05	13.03	13.02	15.47	16.48	17.90	17.25	20.17	16.18	16.02	16.58	16.97
Interest on operating loans	3.51	3.24	3.10	3.47	4.21	5.06	9.86	6.43	7.63	8.41	5.96	4.61	1.09	1.09	1.18	1.27
Interest on real estate	7.24	7.24	7.23	7.23	7.26	7.30	12.22	7.50	8.42	8.73	9.34	7.10	2.57	2.57	2.60	2.90
Total, fixed cash expenses	18.46	19.15	19.83	21.22	24.29	31.15	42.56	34.55	38.01	40.65	37.07	36.81	23.06	22.92	23.51	24.85
Total, cash expenses	42.61	42.08	46.51	52.45	60.62	76.29	92.50	87.27	87.81	92.38	83.57	77.99	68.58	71.88	75.38	78.57
Gross value of production less cash expenses	64.21	74.67	73.34	49.28	34.91	39.66	44.20	31.80	30.95	30.83	11.47	2.78	20.72	57.27	46.25	11.93
Harvest-period price (dollars/bu.)	1.42	1.51	1.07	1.16	1.32	1.46	1.72	1.45	1.52	1.69	1.32	0.87	1.31	2.73	1.55	1.10
Yield (bu./planted acre)	47.30	47.40	61.60	51.80	53.70	57.92	60.05	55.14	52.73	55.10	45.89	60.68	58.05	38.86	65.18	66.51

Table 10B--Oats production economic costs and returns, Lake States and Corn Belt, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct Government payments):																
Oats	66.98	71.71	65.72	60.29	70.83	84.63	103.47	79.99	80.06	93.19	60.68	52.52	75.93	106.26	101.11	73.04
Oats straw	39.84	45.03	54.14	41.44	24.70	31.32	33.23	39.08	38.70	30.02	34.36	28.25	13.37	22.89	20.52	17.46
Total, gross value of production	106.82	116.74	119.85	101.73	95.53	115.95	136.70	119.07	118.76	123.21	95.04	80.77	89.30	129.15	121.63	90.50
Economic (full ownership) costs:																
Variable cash expenses	24.15	22.93	26.68	31.22	36.34	45.14	49.94	52.72	49.80	51.73	46.50	41.18	45.52	48.96	51.87	53.72
General farm overhead	3.79	4.34	4.62	5.09	6.77	5.76	7.46	5.15	5.48	5.61	4.52	4.95	3.22	3.24	3.15	3.71
Taxes and insurance	3.92	4.33	4.88	5.44	6.05	13.03	13.02	15.47	16.48	17.90	17.25	20.17	16.18	16.02	16.58	16.97
Capital replacement	8.69	11.12	12.17	15.09	16.65	18.35	19.76	24.30	26.26	26.05	20.70	30.76	21.24	22.50	25.85	25.47
Operating capital	0.40	0.34	0.38	0.67	0.98	1.35	1.80	1.65	1.26	1.49	1.07	0.71	0.72	0.88	1.04	0.97
Nonland capital	2.60	3.11	3.04	3.52	3.82	3.82	3.74	4.93	4.80	6.04	4.57	6.85	4.13	5.11	7.23	7.75
Land	20.07	17.95	19.88	25.77	29.39	29.39	28.12	33.38	31.85	33.50	22.09	18.17	24.42	34.40	33.55	28.53
Unpaid labor	4.84	5.98	5.98	10.15	11.19	11.96	13.14	14.14	13.79	14.14	12.89	16.28	19.15	19.78	21.45	22.48
Subtotal	68.46	69.53	77.64	96.94	111.57	128.80	136.98	151.78	149.70	156.46	129.59	139.05	134.58	150.89	160.72	159.60
Residual returns to management and risk	38.36	47.22	42.22	4.79	-16.04	-12.85	-0.28	-32.71	-30.94	-33.25	-34.55	-58.28	-45.28	-21.74	-39.09	-69.10
Harvest-period price (dollars/bu.)	1.42	1.51	1.07	1.16	1.32	1.46	1.72	1.45	1.52	1.69	1.32	0.87	1.31	2.73	1.55	1.10
Yield (bu./planted acre)	47.30	47.40	61.60	51.80	53.70	57.92	60.05	55.14	52.73	55.10	45.89	60.68	58.05	38.86	65.18	66.51

Note: Survey base changed in 1988.

Table 11A--Oats production cash costs and returns, Northeast, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct Government payments):																
Oats	73.31	79.79	56.61	66.25	79.90	98.99	103.64	92.44	86.17	106.09	85.76	53.42	73.91	115.79	79.27	79.56
Oats straw	40.60	46.65	43.41	42.40	38.92	43.45	62.94	37.78	37.91	41.34	32.67	38.43	33.10	37.16	34.92	38.62
Total, gross value of production	113.90	126.43	100.02	108.65	118.82	142.44	166.58	130.22	124.08	147.43	118.43	91.85	107.01	152.95	114.19	118.18
Cash expenses:																
Seed	3.86	3.58	3.88	6.37	6.16	6.90	9.25	8.70	7.29	12.47	12.61	7.63	11.04	12.95	13.55	14.17
Fertilizer	21.29	16.15	14.52	14.29	15.97	20.39	21.28	22.35	19.82	20.86	20.09	17.63	23.76	28.10	26.90	24.04
Lime and gypsum	0.00	0.91	1.93	1.55	1.65	1.79	1.92	1.99	9.78	10.30	10.00	9.82	7.84	6.86	7.58	7.82
Chemicals	0.43	0.36	0.42	2.82	2.88	3.06	3.32	3.06	3.13	3.17	3.29	3.20	2.52	2.46	2.61	2.70
Custom operations	4.16	4.55	4.97	5.69	6.26	6.91	7.35	5.51	5.56	5.53	5.82	5.34	4.44	4.13	4.53	5.15
Fuel, lube, and electricity	4.80	5.17	5.61	6.34	9.36	12.86	15.39	14.79	13.52	11.70	12.62	8.98	8.79	8.92	10.90	12.32
Repairs	5.84	5.80	5.86	6.53	6.89	7.68	8.65	9.29	10.08	9.81	9.74	9.69	9.67	10.34	10.44	10.37
Hired labor	1.05	1.18	1.31	1.75	1.81	1.97	2.14	2.20	2.22	2.18	2.26	2.59	3.87	4.45	4.64	4.77
Miscellaneous	0.98	0.96	0.96	1.00	1.06	1.75	1.80	1.34	1.34	1.36	1.35	1.25	0	0	0	0
Technical services	0	0	0	0	0	0	0	0.17	0.16	0.15	0.17	0.16	0	0	0	0
Total, variable cash expenses	42.40	38.65	39.46	46.35	52.04	63.31	71.10	77.60	72.90	77.53	77.95	66.29	71.93	78.21	81.15	81.34
General farm overhead	3.68	4.22	4.49	7.85	11.35	15.09	9.82	5.56	9.57	9.75	9.07	13.71	8.52	8.55	8.29	9.61
Taxes and insurance	3.93	4.46	5.09	5.52	6.09	11.77	13.19	16.47	17.04	17.55	18.71	21.38	16.01	15.66	16.60	17.19
Interest on operating loans	3.80	3.52	3.36	3.77	4.57	5.49	5.00	5.22	4.81	7.20	4.82	2.02	1.01	1.00	1.07	1.15
Interest on real estate	16.15	16.14	16.12	16.11	16.19	16.28	10.25	10.41	7.20	7.23	10.37	9.69	3.17	3.39	3.40	3.80
Total, fixed cash expenses	27.56	28.34	29.06	33.25	38.20	48.63	38.26	37.66	38.62	41.73	42.97	46.80	28.71	28.60	29.36	31.75
Total, cash expenses	69.96	66.99	68.53	79.59	90.24	111.94	109.36	115.26	111.52	119.26	120.92	113.09	100.64	106.81	110.51	113.09
Gross value of production less cash expenses	43.94	59.45	31.50	29.06	28.57	30.50	57.22	14.96	12.56	28.17	-2.49	-21.24	6.37	46.14	3.68	5.09
Harvest-period price (dollars/bu.)																
Yield (bu./planted acre)	1.52	1.63	1.15	1.25	1.42	1.72	1.76	1.53	1.60	1.96	1.12	0.83	1.27	2.28	1.42	1.24
	48.20	49.10	49.40	53.00	56.40	57.68	59.01	60.51	53.74	54.24	76.89	64.53	58.23	50.72	55.89	64.20

Table 11B--Oats production economic costs and returns, Northeast, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct Government payments):																
Oats	73.31	79.79	56.61	66.25	79.90	98.99	103.64	92.44	86.17	106.09	85.76	53.42	73.91	115.79	79.27	79.56
Oats straw	40.60	46.65	43.41	42.40	38.92	43.45	62.94	37.78	37.91	41.34	32.67	38.43	33.10	37.16	34.92	38.62
Total, gross value of production	113.90	126.43	100.02	108.65	118.82	142.44	166.58	130.22	124.08	147.43	118.43	91.85	107.01	152.95	114.19	118.18
Economic (full ownership) costs:																
Variable cash expenses	42.40	38.65	39.46	46.35	52.04	63.31	71.10	77.60	72.90	77.53	77.95	66.29	71.93	78.21	81.15	81.34
General farm overhead	3.68	4.22	4.49	7.85	11.35	15.09	9.82	5.56	9.57	9.75	9.07	13.71	8.52	8.55	8.29	9.61
Taxes and insurance	3.93	4.46	5.09	5.52	6.09	11.77	13.19	16.47	17.04	17.55	18.71	21.38	16.01	15.66	16.60	17.19
Capital replacement	9.31	12.91	14.60	15.13	16.48	18.13	19.83	28.78	30.07	31.51	31.61	37.59	32.69	34.33	41.20	41.17
Operating capital	0.85	0.67	0.71	1.03	1.51	2.10	2.83	2.50	1.89	2.25	1.76	1.09	1.31	1.69	1.99	1.84
Other nonland capital	2.83	3.67	3.71	3.59	3.84	3.84	3.83	6.28	5.92	7.45	7.09	6.52	5.76	7.05	10.36	11.21
Land	5.69	6.44	8.56	13.87	14.54	10.48	10.82	11.55	11.04	12.03	8.76	8.61	9.47	11.71	12.52	9.51
Unpaid labor	7.66	8.62	9.61	12.86	13.30	14.48	15.70	16.14	16.25	15.94	16.54	19.02	15.06	18.18	18.70	19.36
Subtotal	76.35	79.65	86.23	106.19	119.15	139.20	147.12	164.88	164.68	173.81	171.48	174.21	160.75	175.38	190.81	191.23
Residual returns to management and risk	37.55	46.78	13.79	2.47	-0.34	3.24	19.46	-34.66	-40.60	-26.38	-53.05	-82.36	-53.74	-22.43	-76.62	-73.05
Harvest-period price (dollars/bu.)																
Yield (bu./planted acre)	1.52	1.63	1.15	1.25	1.42	1.72	1.76	1.53	1.60	1.96	1.12	0.83	1.27	2.28	1.42	1.24
	48.20	49.10	49.40	53.00	56.40	57.68	59.01	60.51	53.74	54.24	76.89	64.53	58.23	50.72	55.89	64.20

Note: Survey base changed in 1988.



Table 12A--Oats production cash costs and returns, Northern Plains, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct Government payments):																
Oats	50.78	40.73	45.56	52.47	57.59	51.81	72.15	74.08	59.06	70.24	44.31	42.90	63.11	72.03	54.99	56.01
Oats straw	15.48	13.11	19.24	18.49	13.31	16.89	19.66	6.74	6.27	7.24	8.03	6.71	3.24	5.59	5.18	4.59
Total, gross value of production	66.26	53.83	64.80	70.96	70.90	68.70	91.81	80.82	65.33	77.48	52.34	49.61	66.35	77.62	60.17	60.60
Cash expenses:																
Seed	3.41	3.42	2.82	3.74	3.89	4.52	6.17	6.18	4.80	6.65	6.27	4.19	5.00	6.17	7.18	6.52
Fertilizer	6.38	4.44	4.31	4.41	4.92	4.82	4.75	7.74	7.08	7.88	7.53	6.54	7.74	7.22	7.74	6.58
Chemicals	0.39	0.25	0.22	0.60	0.61	0.61	0.69	0.98	1.05	1.01	1.01	0.95	0.88	0.95	1.03	0.97
Custom operations	1.64	1.32	2.28	2.57	2.82	2.99	3.33	2.64	2.32	2.69	1.57	1.31	2.75	3.14	2.57	4.23
Fuel, lube, and electricity	1.93	1.53	2.62	2.91	4.98	6.83	8.28	9.45	8.22	6.89	6.62	5.00	4.02	4.02	5.38	6.13
Repairs	3.73	2.73	4.35	4.77	5.02	5.34	6.20	7.24	7.29	7.20	5.81	6.95	4.76	4.98	6.77	7.15
Hired labor	0.52	0.56	0.66	0.82	0.84	0.88	1.05	1.11	1.11	1.20	1.05	1.34	3.23	3.48	3.85	3.79
Miscellaneous	0.38	0.37	0.38	0.39	0.41	0.63	0.66	0.51	0.51	0.52	0.51	0.36	0	0	0	0
Technical services	0	0	0	0	0	0	0	0.02	0.02	0.02	0.02	0.03	0	0	0	0
Total, variable cash expenses	18.38	14.62	17.63	20.21	23.49	26.62	31.53	35.87	32.40	34.06	30.39	26.67	27.50	29.96	34.52	35.37
General farm overhead	1.60	1.83	1.95	3.43	4.03	3.53	4.74	3.94	4.26	4.38	2.30	2.65	2.19	2.19	2.14	2.40
Taxes and insurance	4.00	4.07	4.66	5.06	5.51	6.31	6.96	7.55	7.39	8.03	7.66	9.40	6.81	7.26	7.91	8.09
Interest on operating loans	2.46	2.27	2.18	2.44	2.96	3.55	6.89	5.08	6.21	6.50	2.80	2.57	1.07	1.06	1.12	1.16
Interest on real estate	3.33	3.33	3.33	3.32	3.34	3.36	5.72	6.77	6.07	5.31	3.42	3.06	1.49	1.59	1.64	1.76
Total, fixed cash expenses	11.39	11.51	12.11	14.25	15.84	16.75	24.31	23.34	23.93	24.22	16.18	17.68	11.56	12.10	12.81	13.41
Total, cash expenses	29.77	26.13	29.74	34.46	39.33	43.37	55.84	59.21	56.33	58.28	46.57	44.35	39.06	42.06	47.33	48.78
Gross value of production less cash expenses	36.48	27.71	35.06	36.50	31.57	25.33	35.97	21.61	9.00	19.20	5.77	5.26	27.29	35.56	12.84	11.82
Harvest-period price (dollars/bu.)	1.35	1.44	1.02	1.11	1.26	1.47	1.72	1.36	1.33	1.55	1.12	0.85	1.32	2.66	1.47	1.05
Yield (bu./planted acre)	37.70	28.30	44.90	47.40	45.90	35.16	41.95	54.57	44.29	45.39	39.56	50.37	47.97	27.07	37.35	53.25

Table 12B--Oats production economic costs and returns, Northern Plains, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct Government payments):																
Oats	50.78	40.73	45.56	52.47	57.59	51.81	72.15	74.08	59.06	70.24	44.31	42.90	63.11	72.03	54.99	56.01
Oats straw	15.48	13.11	19.24	18.49	13.31	16.89	19.66	6.74	6.27	7.24	8.03	6.71	3.24	5.59	5.18	4.59
Total, gross value of production	66.26	53.83	64.80	70.96	70.90	68.70	91.81	80.82	65.33	77.48	52.34	49.61	66.35	77.62	60.17	60.60
Economic (full ownership) costs:																
Variable cash expenses	18.38	14.62	17.63	20.21	23.49	26.62	31.53	35.87	32.40	34.06	30.39	26.67	27.50	29.96	34.52	35.37
General farm overhead	1.60	1.83	1.95	3.43	4.03	3.53	4.74	3.94	4.26	4.38	2.30	2.65	2.19	2.19	2.14	2.40
Taxes and insurance	4.00	4.07	4.66	5.06	5.51	6.31	6.96	7.55	7.39	8.03	7.66	9.40	6.81	7.26	7.91	8.09
Capital replacement	9.15	8.76	10.19	12.46	13.03	13.42	16.28	18.24	18.59	19.28	15.26	21.33	15.21	15.92	20.59	19.44
Operating capital	0.34	0.24	0.26	0.39	0.58	0.77	1.08	0.92	0.68	0.79	0.63	0.38	0.46	0.56	0.64	0.57
Other nonland capital	2.71	2.43	2.52	2.88	2.96	2.75	3.05	3.65	3.29	4.22	3.15	4.40	2.81	3.44	5.91	6.40
Land	13.15	10.39	12.15	13.42	15.86	14.95	19.88	21.13	18.13	20.01	12.36	11.63	18.80	23.36	18.37	20.23
Unpaid labor	3.85	4.07	4.80	6.02	6.18	6.47	7.74	8.17	8.18	8.80	7.68	9.85	6.06	7.10	7.02	7.41
Subtotal	53.18	46.42	54.16	63.87	71.64	74.82	91.26	99.47	92.92	99.57	79.43	86.31	79.84	89.79	97.10	99.91
Residual returns to management and risk	13.08	7.41	10.64	7.09	-0.74	-6.12	0.55	-18.65	-27.59	-22.09	-27.09	-36.70	-13.49	-12.17	-36.93	-39.31
Harvest-period price (dollars/bu.)	1.35	1.44	1.02	1.11	1.26	1.47	1.72	1.36	1.33	1.55	1.12	0.85	1.32	2.66	1.47	1.05
Yield (bu./planted acre)	37.70	28.30	44.90	47.40	45.90	35.16	41.95	54.57	44.29	45.39	39.56	50.37	47.97	27.07	37.35	53.25

Note: Survey base changed in 1988.

Figure 11

## Barley Production Regions



Figure 12

## Barley production costs per planted acre, 1990

Dollars

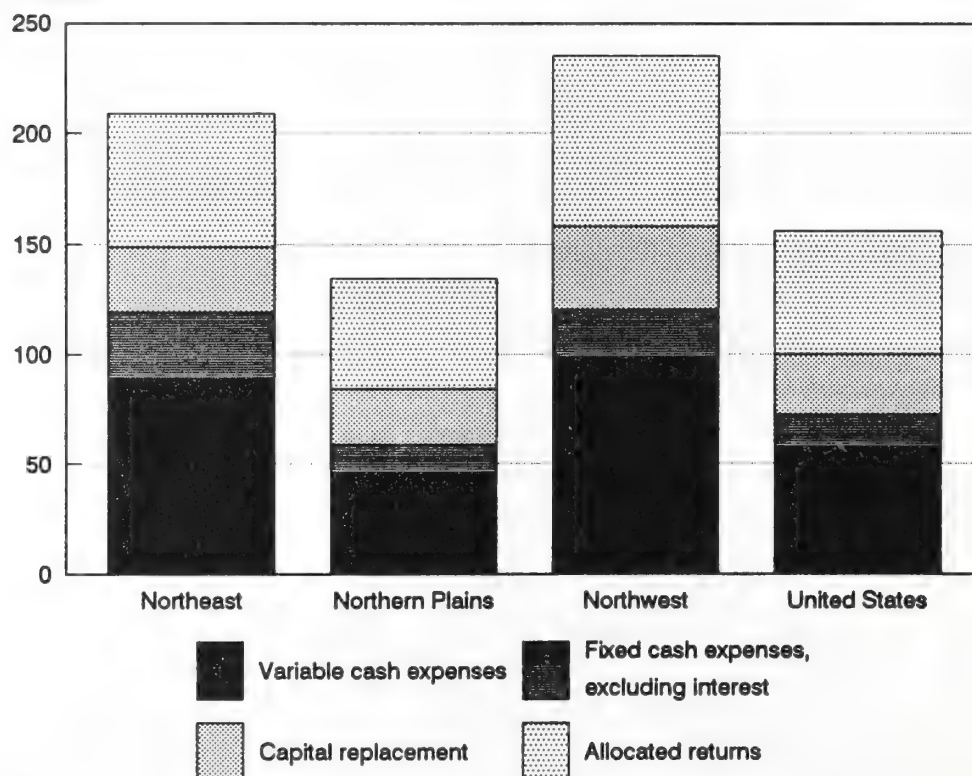




Table 13A--U.S. barley production cash costs and returns, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct Government payments):																
Barley	96.36	91.13	69.13	86.24	107.35	113.75	119.99	114.07	116.99	115.52	83.46	68.92	80.00	79.87	115.21	106.99
Barley straw	4.70	5.40	4.78	5.04	4.30	4.94	4.81	3.58	3.32	3.75	3.58	2.31	2.28	3.47	3.55	3.27
Total, gross value of production	101.06	96.53	73.91	91.28	111.65	118.69	124.80	117.65	120.31	119.27	87.04	71.23	82.28	83.34	118.76	110.26
Cash expenses:																
Seed	6.38	6.12	4.64	4.68	4.94	5.76	7.55	6.54	5.53	6.48	6.08	7.35	5.92	6.30	8.52	7.50
Fertilizer	10.04	7.38	6.79	12.10	12.88	14.30	14.80	18.10	16.20	16.27	15.63	13.83	13.00	14.75	15.59	14.15
Lime and gypsum	0.00	0.00	0.05	0.05	0.05	0.05	0.05	0.04	0.04	0.04	0.03	0.12	0.12	0.13	0.15	0.15
Chemicals	1.62	1.80	1.62	3.36	3.51	3.73	4.11	5.71	3.77	6.04	6.03	6.29	6.17	6.31	6.50	6.81
Custom operations	0.98	1.07	1.11	1.37	1.49	1.50	2.02	4.19	3.77	3.48	2.88	2.43	2.43	1.90	2.56	2.79
Fuel, lube, and electricity	5.02	5.41	5.59	6.81	10.99	14.57	14.84	13.12	11.74	10.18	10.88	7.02	7.18	7.05	8.14	8.54
Repairs	6.35	6.30	6.07	7.29	8.64	9.53	10.56	9.44	9.66	9.56	9.00	7.56	7.06	6.89	8.18	8.17
Hired labor	3.51	4.05	4.63	4.98	5.07	5.29	5.24	5.09	5.20	4.94	4.91	6.13	5.85	6.14	6.71	7.01
Purchased irrigation water	0.62	0.68	0.70	0.87	1.32	1.29	1.55	0.61	1.62	1.65	1.63	2.55	2.34	2.33	2.41	2.43
Miscellaneous	0.13	0.13	0.13	0.13	0.15	0.21	0.21	0.69	0.69	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Technical services	0.00	0.00	0.00	0.00	0.00	0.00	0.48	0.14	0.13	0.12	0.12	0.23	0.23	0.24	0.24	0.24
Total, variable cash expenses	34.64	32.92	31.31	41.64	49.04	56.23	61.41	64.67	60.49	59.46	57.89	53.51	50.30	52.04	59.00	57.79
General farm overhead	4.61	4.90	5.07	6.54	8.29	8.23	9.35	8.36	9.33	9.35	5.49	6.28	5.98	6.45	6.21	7.16
Taxes and insurance	4.32	4.53	5.05	5.75	6.58	8.96	9.17	8.28	8.53	8.91	9.00	7.96	7.38	7.01	8.10	7.71
Interest on operating loans	5.58	5.16	4.93	5.53	6.70	8.05	11.34	9.67	11.39	11.71	3.78	5.47	3.78	3.39	3.55	3.81
Interest on real estate	9.58	9.58	9.56	9.56	9.60	9.66	14.54	9.40	12.97	13.20	8.03	8.26	6.54	6.12	6.23	6.95
Total, fixed cash expenses	24.09	24.17	24.61	27.38	31.18	34.90	44.40	35.71	42.22	43.17	28.05	27.97	23.68	22.97	24.09	25.63
Total, cash expenses	58.73	57.09	55.93	69.01	80.22	91.13	105.81	100.38	102.71	102.63	85.94	81.48	73.98	75.01	83.09	83.42
Gross value of production less cash expenses	42.32	39.44	17.99	22.26	31.43	27.56	18.99	17.27	17.60	16.64	1.10	-10.25	8.30	8.33	35.67	26.84
Harvest-period price (dollars/bu.)	2.37	2.21	1.75	1.88	2.25	2.63	2.42	2.13	2.36	2.29	1.86	1.47	1.69	2.90	2.63	2.12
Yield (bu./planted acre)	40.60	41.30	39.60	45.80	47.80	43.28	49.61	53.44	49.65	50.46	44.96	46.83	47.42	27.54	43.88	50.48

Table 13B--U.S. barley production economic costs and returns, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct Government payments):																
Barley	96.36	91.13	69.13	86.24	107.35	113.75	119.99	114.07	116.99	115.52	83.46	68.92	80.00	79.87	115.21	106.99
Barley straw	4.70	5.40	4.78	5.04	4.30	4.94	4.81	3.58	3.32	3.75	3.58	2.31	2.28	3.47	3.55	3.27
Total, gross value of production	101.06	96.53	73.91	91.28	111.65	118.69	124.80	117.65	120.31	119.27	87.04	71.23	82.28	83.34	118.76	110.26
Economic (full ownership) costs:																
Variable cash expenses	34.64	32.92	31.31	41.64	49.04	56.23	61.41	64.67	60.49	59.46	57.89	53.51	50.30	52.04	59.00	57.79
General farm overhead	4.61	4.90	5.07	6.54	8.29	8.23	9.35	8.36	9.33	9.35	5.49	6.28	5.98	6.45	6.21	7.16
Taxes and insurance	4.32	4.53	5.05	5.75	6.58	8.96	9.17	8.28	8.53	8.91	9.00	7.96	7.38	7.01	8.10	7.71
Capital replacement	11.34	13.02	13.58	17.32	21.87	23.29	25.01	23.71	24.56	24.94	24.06	24.41	23.61	22.81	27.43	27.58
Operating capital	0.78	0.72	0.72	0.92	1.37	1.74	2.24	2.03	1.53	1.65	1.50	0.84	0.84	1.03	1.33	1.19
Other nonland capital	3.30	3.55	3.26	3.94	4.88	4.73	4.60	4.18	3.90	4.89	4.47	4.48	4.26	4.68	6.89	7.63
Land	20.92	19.63	15.80	24.77	27.38	28.06	28.88	31.25	31.83	30.77	21.15	26.70	28.38	30.18	36.32	34.59
Unpaid labor	3.95	4.56	5.23	5.61	5.71	5.96	5.91	5.73	5.87	5.58	5.54	11.07	10.49	11.10	12.15	12.59
Subtotal	83.87	83.84	79.81	106.49	125.12	137.20	146.57	148.21	146.04	145.55	128.90	135.23	131.24	135.30	157.43	156.24
Residual returns to management and risk	17.18	12.69	-5.90	-15.21	-13.47	-18.51	-21.77	-30.56	-25.73	-26.28	-41.86	-64.00	-48.96	-51.96	-38.67	-45.98
Harvest-period price (dollars/bu.)	2.37	2.21	1.75	1.88	2.25	2.63	2.42	2.13	2.36	2.29	1.86	1.47	1.69	2.90	2.63	2.12
Yield (bu./planted acre)	40.60	41.30	39.60	45.80	47.80	43.28	49.61	53.44	49.65	50.46	44.96	46.83	47.42	27.54	43.88	50.48

Note: Survey base changed in 1986.

Table 14A--Barley production cash costs and returns, Northeast, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct Government payments):																
Barley	99.59	77.77	74.38	79.36	91.35	113.50	104.98	94.65	112.93	124.24	93.75	75.21	80.51	156.09	108.65	136.93
Barley straw	56.65	53.67	60.02	54.04	44.20	41.16	73.50	67.62	67.62	70.07	55.32	44.80	53.60	63.71	55.93	65.25
Total, gross value of production	156.25	131.44	134.40	133.41	135.55	154.66	178.48	162.27	180.55	194.31	149.07	120.01	134.11	219.80	164.58	202.18
Cash expenses:																
Seed	7.29	6.86	6.23	6.50	8.38	8.93	9.26	9.15	8.60	9.92	9.59	17.30	15.79	15.35	17.41	16.98
Fertilizer	21.94	16.66	14.78	14.90	16.28	21.17	22.02	21.52	19.25	20.28	19.24	21.34	20.57	24.97	27.34	24.52
Lime and gypsum	0	0	2.13	3.54	3.83	4.25	4.64	4.88	4.84	5.06	5.04	4.44	4.86	4.46	4.84	5.08
Chemicals	0.12	2.10	1.89	0.14	0.15	0.15	0.17	0.18	0.19	0.19	0.19	2.66	2.66	2.70	2.83	2.98
Custom operations	3.96	3.57	4.68	4.95	5.15	5.80	5.81	6.65	6.74	6.84	6.98	7.27	6.93	7.96	7.87	9.26
Fuel, lube, and electricity	5.14	4.56	5.95	6.20	9.41	13.17	15.04	13.75	12.69	11.03	11.90	6.42	6.65	7.00	7.83	9.03
Repairs	6.61	5.42	6.58	6.76	7.18	8.35	9.00	8.62	9.00	8.38	8.45	7.39	7.34	8.02	8.32	8.95
Hired labor	4.16	4.28	4.86	6.95	7.41	8.38	8.86	9.15	8.83	8.42	8.92	10.29	9.72	11.62	12.09	12.28
Miscellaneous	1.04	1.02	1.02	1.06	1.14	1.88	1.94	1.92	1.93	1.96	1.95	0	0	0	0	0
Total, variable cash expenses	50.26	44.47	48.13	51.00	58.92	72.08	76.74	75.82	72.07	72.08	72.26	77.11	74.52	82.08	88.53	89.08
General farm overhead	5.03	5.34	5.69	8.56	12.38	17.51	9.55	5.36	10.31	10.51	11.42	5.65	5.52	5.85	5.67	6.56
Taxes and insurance	4.06	4.37	4.95	5.67	6.25	15.65	15.18	19.28	20.69	20.89	22.19	20.50	20.71	22.16	23.58	23.84
Interest on operating loans	4.41	4.08	3.90	4.37	5.31	6.37	4.87	5.04	5.18	7.76	6.07	2.44	1.72	1.52	1.60	1.72
Interest on real estate	18.73	18.73	18.70	18.70	18.78	18.89	9.97	10.03	7.76	7.80	13.06	3.37	2.73	2.53	2.57	2.86
Total, fixed cash expenses	32.24	32.53	33.24	37.30	42.72	58.42	39.57	39.71	43.94	46.96	52.74	31.96	30.68	32.06	33.42	34.98
Total, cash expenses	82.50	77.00	81.37	88.30	101.64	130.50	116.31	115.53	116.01	119.04	125.00	109.07	105.20	114.14	121.95	124.06
Gross value of production less cash expenses	73.75	54.45	53.03	45.11	33.91	24.16	62.17	46.74	64.54	75.27	24.07	10.94	28.91	105.66	42.63	78.12
Harvest-period price (dollars/bu.)	2.18	2.03	1.61	1.73	2.07	2.42	2.20	1.96	2.20	2.56	1.62	1.35	1.53	2.58	1.95	2.15
Yield (bu./planted acre)	45.60	38.30	46.30	45.80	44.20	46.90	47.72	48.29	51.33	48.53	57.87	55.71	52.62	60.50	55.72	63.69

Table 14B--Barley production economic costs and returns, Northeast, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct Government payments)																
Barley	99.59	77.77	74.38	79.36	91.35	113.50	104.98	94.65	112.93	124.24	93.75	75.21	80.51	156.09	108.65	136.93
Barley straw	56.65	53.67	60.02	54.04	44.20	41.16	73.50	67.62	67.62	70.07	55.32	44.80	53.60	63.71	55.93	65.25
Total, gross value of production	156.25	131.44	134.40	133.41	135.55	154.66	178.48	162.27	180.55	194.31	149.07	120.01	134.11	219.80	164.58	202.18
Economic (full ownership) costs:																
Variable cash expenses	50.26	44.47	48.13	51.00	58.92	72.08	76.74	75.82	72.07	72.08	72.26	77.11	74.52	82.08	88.53	89.08
General farm overhead	5.03	5.34	5.69	8.56	12.38	17.51	9.55	5.36	10.31	10.51	11.42	5.65	5.52	5.85	5.67	6.56
Taxes and insurance	4.06	4.37	4.95	5.67	6.25	15.65	15.18	19.28	20.69	20.89	22.19	20.50	20.71	22.16	23.58	23.84
Capital replacement	10.57	11.92	13.23	16.49	17.77	19.87	20.93	24.31	25.63	28.94	29.41	24.42	24.50	26.10	27.90	29.42
Operating capital	3.19	3.36	3.33	3.88	4.11	4.17	2.31	1.65	1.24	1.41	1.10	0.94	2.38	3.01	3.79	3.45
Other nonland capital	5.38	9.46	14.74	23.11	24.67	17.65	19.02	31.45	30.78	34.27	29.17	26.50	29.63	33.59	34.75	31.88
Land	4.69	4.83	5.48	7.84	8.35	9.44	10.00	10.31	9.95	9.51	10.06	13.63	12.92	14.58	16.07	16.33
Unpaid labor	85.17	85.32	96.98	118.23	135.34	158.15	157.73	173.52	175.75	184.36	182.12	173.48	174.82	192.99	207.69	209.05
Total, economic costs	71.07	46.12	37.42	15.17	0.20	-3.49	20.75	-11.25	4.80	9.95	-33.05	-53.47	-40.71	26.81	-43.11	-6.87
Residual returns to management and risk																
Harvest-period price (dollars/bu.)	2.18	2.03	1.61	1.73	2.07	2.42	2.20	1.96	2.20	2.56	1.62	1.35	1.53	2.58	1.95	2.15
Yield (bu./planted acre)	45.60	38.30	46.30	45.80	44.20	46.90	47.72	48.29	51.33	48.53	57.87	55.71	52.62	60.50	55.72	63.69

Note: Survey base changed in 1986.



Table 15A--Barley production cash costs and returns, Northern Plains, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct Government payments):																
Barley	75.48	71.95	60.68	72.87	87.72	80.44	99.39	91.55	92.81	93.95	65.11	51.16	63.42	51.24	96.28	90.20
Barley straw	4.11	4.76	4.69	4.75	4.80	4.98	4.31	2.29	2.14	2.93	3.27	1.29	1.33	2.35	2.00	1.55
Total, gross value of production	79.59	76.71	65.36	77.62	92.51	85.42	103.70	93.84	94.95	96.88	68.38	52.45	64.75	53.59	98.28	91.75
Cash expenses:																
Seed	5.27	4.86	4.00	4.04	4.08	4.56	6.04	4.97	4.14	5.54	5.01	6.08	4.62	5.15	7.47	6.37
Fertilizer	8.13	5.80	5.64	11.10	12.20	12.14	12.50	15.39	13.76	14.51	14.20	12.90	12.26	14.29	14.62	12.69
Chemicals	1.75	1.48	1.32	2.80	2.89	3.06	3.34	5.20	5.36	5.52	5.51	5.38	5.45	5.56	5.70	6.04
Custom operations	0.24	0.26	0.30	0.36	0.38	0.36	0.38	1.60	1.57	4.18	1.40	1.68	1.97	0.99	1.67	1.90
Fuel, lube, and electricity	3.11	3.38	3.88	4.55	7.97	10.39	12.16	10.01	8.00	7.46	8.27	3.94	4.84	4.43	5.25	5.97
Repairs	5.36	5.36	5.74	6.64	7.88	8.34	9.83	7.66	8.00	7.93	7.46	6.29	5.88	5.31	6.83	6.76
Hired labor	2.70	3.11	3.41	3.40	3.76	3.83	4.30	4.11	4.28	4.18	4.15	4.36	4.23	4.35	4.77	5.02
Purchased irrigation water	0.14	0.15	0.18	0.21	0.37	0.32	0.30	0.31	0.31	0.32	0.31	1.17	1.24	1.09	1.11	1.13
Miscellaneous	0.12	0.12	0.12	0.12	0.15	0.21	0.21	0.21	0.21	0.21	0.21	0.27	0.27	0.27	0.28	0.28
Technical services	0	0	0	0	0	0	0	0.14	0.12	0.12	0.13	0.27	0.27	0.27	0.28	0.28
Total, variable cash expenses	26.82	24.52	24.59	33.22	39.68	43.21	49.06	49.60	46.70	47.44	46.66	42.07	40.53	41.44	47.70	46.16
General farm overhead	3.76	4.00	4.26	4.81	6.22	5.75	7.81	5.87	7.19	7.39	3.54	5.23	5.14	5.51	5.26	6.10
Taxes and insurance	4.29	4.38	4.99	5.64	6.40	6.61	7.23	7.00	7.31	7.80	7.89	6.99	6.54	5.96	7.13	6.71
Interest on operating loans	4.01	3.70	3.54	3.97	4.81	5.78	10.17	7.50	9.78	10.31	4.25	4.84	3.44	3.07	3.18	3.43
Interest on real estate	5.42	5.42	5.41	5.41	5.44	5.47	12.18	8.73	10.58	10.58	5.52	7.37	5.97	5.57	5.64	6.31
Total, fixed cash expenses	17.48	17.50	18.20	19.83	22.87	23.61	37.39	29.10	34.57	36.08	21.20	24.43	21.09	20.11	21.21	22.55
Total, cash expenses	44.29	42.02	42.79	53.05	62.55	66.82	86.45	78.70	81.27	83.54	67.86	66.50	61.62	61.55	68.91	68.71
Gross value of production less cash expenses	35.29	34.68	22.58	24.57	29.97	18.60	17.25	15.14	13.68	13.34	0.52	-14.05	3.13	-7.96	29.37	23.04
Harvest-period price (dollars/bu.)	2.13	1.98	1.56	1.69	2.01	2.49	2.18	1.82	2.13	2.11	1.59	1.18	1.47	3.04	2.54	1.93
Yield (bu./planted acre)	35.50	36.40	38.80	43.20	43.60	32.31	45.69	50.18	43.55	44.54	41.08	43.28	43.05	16.87	37.88	46.66

Table 15B--Barley production economic costs and returns, Northern Plains, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct Government payments):																
Barley	75.48	71.95	60.68	72.87	87.72	80.44	99.39	91.55	92.81	93.95	65.11	51.16	63.42	51.24	96.28	90.20
Barley straw	4.11	4.76	4.69	4.75	4.80	4.98	4.31	2.29	2.14	2.93	3.27	1.29	1.33	2.35	2.00	1.55
Total, gross value of production	79.59	76.71	65.36	77.62	92.51	85.42	103.70	93.84	94.95	96.88	68.38	52.45	64.75	53.59	98.28	91.75
Economic (full ownership) costs:																
Variable cash expenses	26.82	24.52	24.59	33.22	39.68	43.21	49.06	49.60	46.70	47.44	46.66	42.07	40.53	41.44	47.70	46.16
General farm overhead	3.76	4.00	4.26	4.81	6.22	5.75	7.81	5.87	7.19	7.39	3.54	5.23	5.14	5.51	5.26	6.10
Taxes and insurance	4.29	4.38	4.99	5.64	6.40	6.61	7.23	7.00	7.31	7.80	7.89	6.99	6.54	5.96	7.13	6.71
Capital replacement	11.26	11.40	12.75	16.78	19.74	20.26	23.66	22.28	23.05	23.06	22.37	22.80	22.02	20.19	25.69	25.52
Operating capital	0.54	0.40	0.43	0.69	1.01	1.29	1.71	1.64	1.28	1.42	1.13	0.56	0.99	0.72	0.95	0.82
Other nonland capital	3.31	3.14	3.14	3.86	4.46	4.13	4.42	4.00	28.56	4.60	4.22	4.31	3.99	4.12	6.45	7.09
Land	18.63	17.49	15.99	22.69	25.75	25.47	29.55	28.89	27.75	27.75	18.75	23.32	24.32	23.25	30.40	29.76
Unpaid labor	3.04	3.51	3.84	3.85	4.24	4.32	4.85	4.64	4.83	4.71	4.69	10.62	10.24	10.95	12.02	12.62
Subtotal	71.65	68.84	69.99	91.52	107.50	111.04	128.29	123.91	122.62	124.18	109.24	115.80	113.37	112.14	135.60	134.58
Residual returns to management and risk	7.94	7.87	-4.63	-13.90	-14.98	-25.62	-24.59	-30.07	-27.67	-27.30	-40.86	-63.35	-48.62	-58.55	-37.32	-42.83
Harvest-period price (dollars/bu.)	2.13	1.98	1.56	1.69	2.01	2.49	2.18	1.82	2.13	2.11	1.59	1.18	1.47	3.04	2.54	1.93
Yield (bu./planted acre)	35.50	36.40	38.80	43.20	43.60	32.31	45.69	50.18	43.55	44.54	41.08	43.28	43.05	16.87	37.88	46.66

Note: Survey base changed in 1986.

Table 16A--Barley production cash costs and returns, Northwest, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct Government payments):																
Barley	128.61	126.69	68.57	121.31	135.69	178.63	148.38	149.40	163.42	152.99	115.73	116.33	138.57	161.33	173.62	167.61
Barley straw	3.59	4.29	2.72	4.05	3.80	4.04	2.47	4.64	4.38	4.46	3.43	3.54	3.53	4.84	5.48	6.34
Total, gross value of production	132.20	130.98	71.28	125.36	139.49	182.67	150.85	154.04	167.80	157.45	119.16	119.87	142.10	166.17	179.10	173.95
Cash expenses:																
Seed	7.83	7.45	5.41	5.57	5.48	7.34	9.16	7.87	7.21	7.78	7.59	10.41	9.43	9.20	11.07	10.52
Fertilizer	14.52	10.86	9.27	12.44	12.44	15.85	17.71	20.69	19.57	19.37	18.44	17.18	16.31	16.88	19.29	20.12
Lime and gypsum												0.45	0.47	0.50	0.53	0.58
Chemicals	1.50	2.56	2.48	4.45	4.51	4.96	5.57	6.82	7.33	7.56	7.77	8.81	8.74	8.84	9.23	9.60
Custom operations	0.41	0.47	0.35	0.61	0.71	0.81	0.91	3.89	3.83	3.88	3.26	3.73	4.12	3.98	4.68	5.13
Fuel, lube, and electricity	6.28	7.04	5.19	8.97	14.98	20.65	18.62	15.23	15.01	13.71	13.29	15.27	15.80	16.13	18.17	18.34
Repairs	8.02	8.29	5.70	9.71	11.30	13.05	12.71	12.87	13.49	13.29	12.58	11.65	11.84	12.65	13.33	13.92
Hired labor	3.83	4.65	5.14	7.59	5.59	6.22	5.87	5.98	6.61	6.05	6.11	10.88	11.10	11.47	12.65	13.83
Purchased irrigation water	0	0	0	0	0.88	0.85	0.78	2.94	2.95	3.00	2.98	5.98	6.01	6.35	6.62	7.06
Miscellaneous	0	0	0	0	0.12	0.16	0.14	0.63	0.63	0.64	0.64	0	0	0	0	0
Technical services	0	0	0	0	0	0	0	0.08	0.08	0.08	0.07	0.14	0.14	0.15	0.15	0.16
Total, variable cash expenses	42.39	41.32	33.54	49.34	56.01	69.89	71.47	77.00	76.71	75.37	72.73	84.50	83.96	86.15	95.72	99.26
General farm overhead	5.26	5.58	5.94	8.66	10.54	13.25	11.46	11.26	12.31	12.58	9.06	9.35	9.14	9.83	9.63	11.26
Taxes and insurance	4.70	14.60	5.04	6.05	7.22	11.08	11.70	9.32	9.99	10.63	11.08	9.45	9.22	9.28	9.89	9.89
Interest on operating loans	9.56	8.84	8.46	9.48	11.69	13.80	12.74	12.17	13.60	14.07	7.91	7.71	5.45	4.88	5.21	5.67
Interest on real estate	18.49	18.48	18.45	18.45	18.53	18.64	18.61	9.91	17.00	18.03	12.59	10.36	8.43	7.93	8.16	9.22
Total, fixed cash expenses	38.00	47.50	37.89	42.63	47.78	56.77	54.51	42.66	52.90	55.31	40.64	36.87	32.24	31.92	32.89	36.04
Total, cash expenses	80.39	88.82	71.43	91.98	103.79	126.66	125.98	119.66	129.61	130.68	113.37	121.37	116.20	118.07	128.61	135.30
Gross value of production less cash expenses	51.80	42.16	-0.15	33.39	35.70	56.01	24.87	34.38	38.19	26.77	5.79	-1.50	25.90	48.10	50.49	38.65
Harvest-period price (dollars/bu.)	2.64	2.45	1.94	2.10	2.50	2.68	2.63	2.58	2.61	2.39	2.22	2.05	2.16	2.70	2.73	2.55
Yield (bu./planted acre)	48.70	51.60	35.30	57.90	54.30	66.64	56.36	57.94	62.58	64.08	52.05	56.65	64.21	59.66	63.68	65.83

Table 16B--Barley production economic costs and returns, Northwest, 1975-90

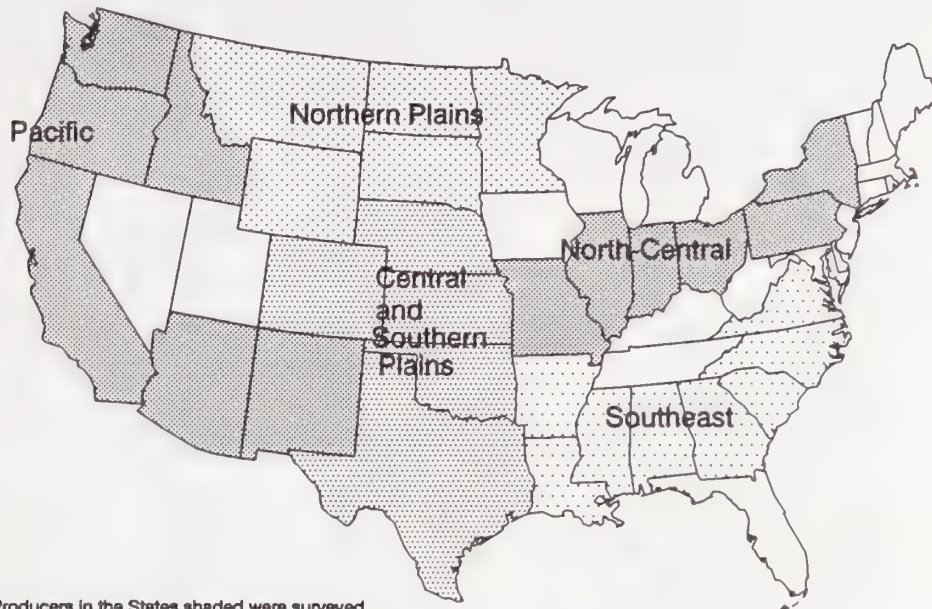
Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct Government payments):																
Barley	128.61	126.69	68.57	121.31	135.69	178.63	148.38	149.40	163.42	152.99	115.73	116.33	138.57	161.33	173.62	167.61
Barley straw	3.59	4.29	2.72	4.05	3.80	4.04	2.47	4.64	4.38	4.46	3.43	3.54	3.53	4.84	5.48	6.34
Total, gross value of production	132.20	130.98	71.28	125.36	139.49	182.67	150.85	154.04	167.80	157.45	119.16	119.87	142.10	166.17	179.10	173.95
Economic (full ownership) costs:																
Variable cash expenses	42.39	41.32	33.54	49.34	56.01	69.89	71.47	77.00	76.71	75.37	72.73	84.50	83.96	86.15	95.72	99.26
General farm overhead	5.26	5.58	5.94	8.66	10.54	13.25	11.46	11.26	12.31	12.58	9.06	9.35	9.14	9.83	9.63	11.26
Taxes and insurance	4.70	14.60	5.04	6.05	7.22	11.08	11.70	9.32	9.99	10.63	11.08	9.45	9.22	9.28	9.89	9.89
Capital replacement	12.90	13.14	10.07	18.94	28.38	31.63	31.07	26.88	28.37	29.40	27.96	31.17	31.69	33.70	36.12	37.88
Operating capital	0.80	0.66	0.67	0.97	1.31	1.80	2.34	2.09	1.64	1.80	1.41	1.46	1.60	1.89	2.43	2.33
Other nonland capital	3.73	3.56	2.43	4.28	6.29	6.43	5.66	4.60	4.39	5.58	5.05	5.62	5.64	6.97	9.03	10.34
Land	22.84	21.40	13.36	29.22	24.57	33.69	26.44	37.56	41.03	38.65	26.90	35.62	41.44	49.55	53.18	51.46
Unpaid labor	4.31	5.25	5.80	8.56	6.31	7.02	6.61	6.75	7.46	6.83	6.90	11.16	10.95	11.13	12.13	12.87
Subtotal	96.93	105.50	76.86	126.03	140.62	174.79	166.75	175.46	181.90	180.83	161.08	188.34	193.64	208.50	228.13	235.29
Residual returns to management and risk	35.27	25.48	-5.57	-0.66	-1.13	7.88	-15.90	-21.42	-14.10	-23.38	-41.92	-68.47	-51.54	-42.33	-49.03	-61.34
Harvest-period price (dollars/bu.)	2.64	2.45	1.94	2.10	2.50	2.68	2.63	2.58	2.61	2.39	2.22	2.05	2.16	2.70	2.73	2.55
Yield (bu./planted acre)	48.70	51.60	35.30	57.90	54.30	66.64	56.36	57.94	62.58	64.08	52.05	56.65	64.21	59.66	63.68	65.83

Note: Survey base changed in 1986.



Figure 13

## Wheat Production Regions



Producers in the States shaded were surveyed about production practices and costs of production. Production regions are defined for each crop based on common cultural practices.

Figure 14

## Wheat production costs per planted acre, 1990

Dollars

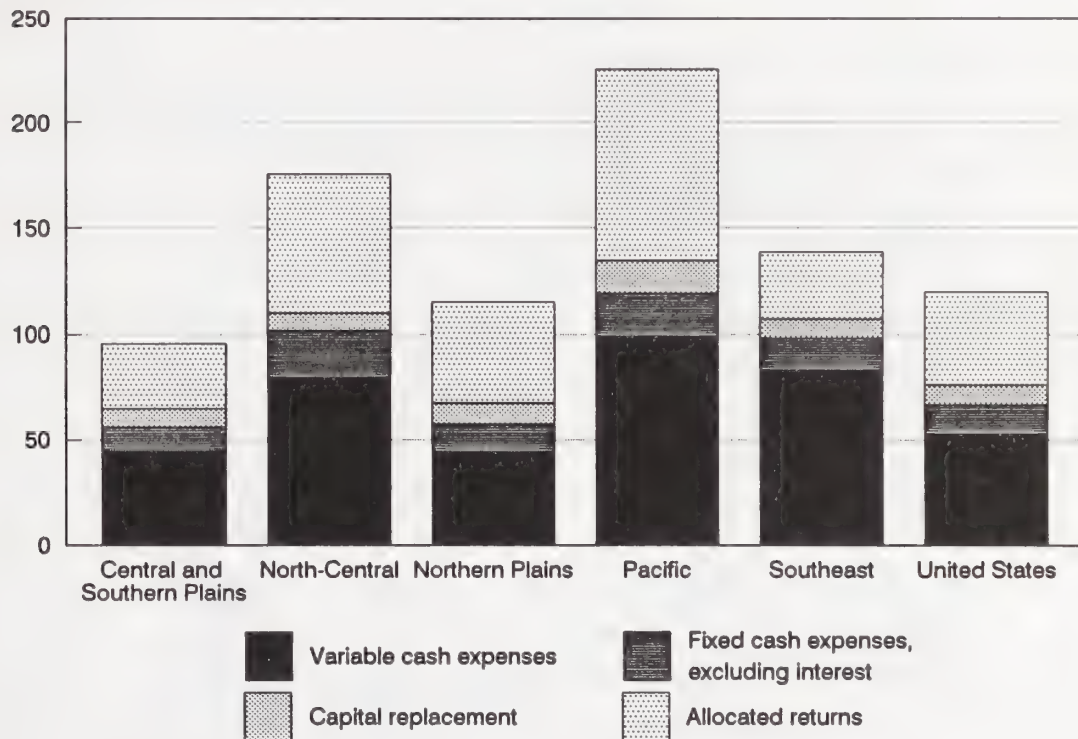


Table 17A--U.S. wheat production cash costs and returns, 1989-90

Item	1989	1990
Dollars per planted acre		
Gross value of production (excluding direct Government payments):		
Wheat	99.90	94.27
Wheat straw	3.45	1.52
Total, gross value of production	103.35	95.79
Cash expenses:		
Seed	7.68	7.69
Fertilizer	16.43	14.29
Lime and gypsum	.27	.30
Chemicals	5.02	5.45
Custom operations	4.07	4.52
Fuel, lube, and electricity	7.96	8.72
Repairs	6.39	6.51
Hired labor	4.95	4.92
Purchased irrigation water	.20	.20
Technical services	.04	.04
Total, variable cash expenses	53.01	52.64
General farm overhead	5.01	6.47
Taxes and insurance	8.72	10.28
Interest on operating loans	2.99	3.76
Interest on real estate	5.78	7.23
Total, fixed cash expenses	22.50	27.74
Total, cash expenses	75.51	80.38
Gross value of production less cash expenses	27.84	15.41
Harvest-period price (dollars/bu.)	3.81	2.78
Yield (bu./planted acre)	26.22	33.91

Table 17B--U.S. wheat production economic costs and returns, 1989-90

Item	1989	1990
Dollars per planted acre		
Gross value of production (excluding direct Government payments):		
Wheat	99.90	94.27
Wheat straw	3.45	1.52
Total, gross value of production	103.35	95.79
Economic (full ownership) costs:		
Variable cash expenses	53.01	52.64
General farm overhead	5.01	6.47
Taxes and insurance	8.72	10.28
Capital replacement	9.66	9.89
Operating capital	2.12	1.97
Other nonland capital	9.67	10.67
Land	23.27	22.83
Unpaid labor	8.67	11.24
Subtotal	120.13	125.99
Residual returns to management and risk	-16.78	-30.20
Harvest-period price (dollars/bu.)	3.81	2.78
Yield (bu./planted acre)	26.22	33.91



Table 18A--Wheat production cash costs and returns,  
Central and Southern Plains, 1989-90

Item	1989	1990
Dollars per planted acre		
Gross value of production (excluding direct Government payments):		
Wheat	93.03	82.48
Wheat straw	.49	.37
Total, gross value of production	93.52	82.85
Cash expenses:		
Seed	5.63	5.81
Fertilizer	12.88	10.99
Lime and gypsum	.17	.25
Chemicals	2.80	3.06
Custom operations	4.51	5.02
Fuel, lube, and electricity	7.73	8.36
Repairs	6.61	6.49
Hired labor	4.50	4.49
Purchased irrigation water	.05	.04
Technical services	.01	.01
Total, variable cash expenses	44.89	44.52
General farm overhead	3.45	5.25
Taxes and insurance	7.86	8.97
Interest on operating loans	2.21	3.14
Interest on real estate	3.75	5.92
Total, fixed cash expenses	17.27	23.28
Total, cash expenses	62.16	67.80
Gross value of production less cash expenses	31.36	15.05
Harvest-period price (dollars/bu.)	3.86	2.88
Yield (bu./planted acre)	24.10	28.64

Table 18B--Wheat production economic costs and returns,  
Central and Southern Plains, 1989-90

Item	1989	1990
Dollars per planted acre		
Gross value of production (excluding direct Government payments):		
Wheat	93.03	82.48
Wheat straw	.49	.37
Total, gross value of production	93.52	82.85
Economic (full ownership) costs:		
Variable cash expenses	44.89	44.52
General farm overhead	3.45	5.25
Taxes and insurance	7.86	8.97
Capital replacement	8.88	8.99
Operating capital	1.80	1.66
Other nonland capital	8.92	9.80
Land	13.49	18.59
Unpaid labor	6.44	11.91
Subtotal	95.73	109.69
Residual returns to management and risk	-2.21	-26.84
Harvest-period price (dollars/bu.)	3.86	2.88
Yield (bu./planted acre)	24.10	28.64

Table 19A--Wheat production cash costs and returns,  
North-Central, 1989-90

Item	1989	1990
Dollars per planted acre		
Gross value of production (excluding direct Government payments):		
Wheat	198.68	132.39
Wheat straw	13.51	12.15
Total, gross value of production	212.19	144.54
Cash expenses:		
Seed	13.47	13.43
Fertilizer	43.94	35.62
Lime and gypsum	1.05	1.14
Chemicals	2.36	2.33
Custom operations	5.39	5.58
Fuel, lube, and electricity	6.02	5.05
Repairs	4.18	3.18
Hired labor	3.46	3.11
Technical services	.01	.01
Total, variable cash expenses	79.88	69.45
General farm overhead	8.12	7.38
Taxes and insurance	13.71	15.20
Interest on operating loans	2.91	2.49
Interest on real estate	10.33	8.70
Total, fixed cash expenses	35.07	33.77
Total, cash expenses	114.95	103.22
Gross value of production less cash expenses	97.24	41.32
Harvest-period price (dollars/bu.)	3.75	2.90
Yield (bu./planted acre)	52.98	45.65

Table 19B--Wheat production economic costs and returns,  
North-Central, 1989-90

Item	1989	1990
Dollars per planted acre		
Gross value of production (excluding direct Government payments):		
Wheat	198.68	132.39
Wheat straw	13.51	12.15
Total, gross value of production	212.19	144.54
Economic (full ownership) costs:		
Variable cash expenses	79.88	69.45
General farm overhead	8.12	7.38
Taxes and insurance	13.71	15.20
Capital replacement	8.23	5.63
Operating capital	3.21	2.59
Other nonland capital	11.76	10.08
Land	34.52	28.05
Unpaid labor	15.97	15.20
Subtotal	175.40	153.58
Residual returns to management and risk	36.79	-9.04
Harvest-period price (dollars/bu.)	3.75	2.90
Yield (bu./planted acre)	52.98	45.65



Table 20A--Wheat production cash costs and returns,  
Northern Plains, 1989-90

Item	1989	1990
Dollars per planted acre		
Gross value of production (excluding direct Government payments):		
Wheat	93.95	83.46
Wheat straw	.83	.84
Total, gross value of production	94.78	84.30
Cash expenses:		
Seed	7.47	7.24
Fertilizer	10.84	9.16
Chemicals	6.40	6.88
Custom operations	2.46	2.71
Fuel, lube, and electricity	7.00	8.15
Repairs	6.35	6.83
Hired labor	3.58	3.51
Purchased irrigation water	.01	.01
Technical services	.08	.07
Total, variable cash expenses	44.19	44.56
General farm overhead	4.97	6.57
Taxes and insurance	8.65	9.98
Interest on operating loans	3.37	4.30
Interest on real estate	6.60	8.43
Total, fixed cash expenses	23.59	29.28
Total, cash expenses	67.78	73.84
Gross value of production less cash expenses	27.00	10.46
Harvest-period price (dollars/bu.)	3.67	2.55
Yield (bu./planted acre)	25.60	32.73

Table 20B--Wheat production economic costs and returns,  
Northern Plains, 1989-90

Item	1989	1990
Dollars per planted acre		
Gross value of production (excluding direct Government payments):		
Wheat	93.95	83.46
Wheat straw	.83	.84
Total, gross value of production	94.78	84.30
Economic (full ownership) costs:		
Variable cash expenses	44.19	44.56
General farm overhead	4.97	6.57
Taxes and insurance	8.65	9.98
Capital replacement	9.79	11.24
Operating capital	1.78	1.66
Other nonland capital	10.27	11.75
Land	25.94	21.00
Unpaid labor	9.63	9.76
Subtotal	115.22	116.52
Residual returns to management and risk	-20.44	-32.22
Harvest-period price (dollars/bu.)	3.67	2.55
Yield (bu./planted acre)	25.60	32.73

Table 21A--Wheat production cash costs and returns,  
Pacific, 1989-90

Item	1989	1990
Dollars per planted acre		
Gross value of production (excluding direct Government payments):		
Wheat	219.97	186.82
Wheat straw	1.11	1.20
Total, gross value of production	221.08	188.02
Cash expenses:		
Seed	11.84	11.84
Fertilizer	28.15	28.32
Lime and gypsum	.01	.01
Chemicals	13.33	15.89
Custom operations	5.71	6.89
Fuel, lube, and electricity	16.83	19.62
Repairs	7.66	9.29
Hired labor	13.62	14.97
Purchased irrigation water	2.30	2.53
Technical services	.06	.06
Total, variable cash expenses	99.51	109.42
General farm overhead	10.22	12.79
Taxes and insurance	9.81	11.77
Interest on operating loans	5.63	6.96
Interest on real estate	8.63	8.95
Total, fixed cash expenses	34.29	40.47
Total, cash expenses	133.80	149.89
Gross value of production less cash expenses	87.28	38.13
Harvest-period price (dollars/bu.)	4.12	2.92
Yield (bu./planted acre)	53.39	63.98

Table 21B--Wheat production economic costs and returns,  
Pacific, 1989-90

Item	1989	1990
Dollars per planted acre		
Gross value of production (excluding direct Government payments):		
Wheat	219.97	186.82
Wheat straw	1.11	1.20
Total, gross value of production	221.08	188.02
Economic (full ownership) costs:		
Variable cash expenses	99.51	109.42
General farm overhead	10.22	12.79
Taxes and insurance	9.81	11.77
Capital replacement	15.43	14.36
Operating capital	4.00	4.09
Other nonland capital	10.11	12.26
Land	65.26	62.95
Unpaid labor	11.54	13.25
Subtotal	225.88	240.89
Residual returns to management and risk	-4.80	-52.87
Harvest-period price (dollars/bu.)	4.12	2.92
Yield (bu./planted acre)	53.39	63.98



Table 22A--Wheat production cash costs and returns,  
Southeast, 1989-90

Item	1989	1990
Dollars per planted acre		
Gross value of production (excluding direct Government payments):		
Wheat	137.69	96.56
Wheat straw	1.53	1.53
Total, gross value of production	139.22	98.09
Cash expenses:		
Seed	13.27	13.56
Fertilizer	34.14	31.11
Lime and gypsum	2.53	2.23
Chemicals	5.72	6.42
Custom operations	7.67	8.86
Fuel, lube, and electricity	6.38	6.90
Repairs	5.81	5.43
Hired labor	8.04	8.21
Technical services	.06	.06
Total, variable cash expenses	83.62	82.78
General farm overhead	6.43	6.54
Taxes and insurance	8.51	14.72
Interest on operating loans	3.10	2.78
Interest on real estate	6.56	5.44
Total, fixed cash expenses	24.60	29.48
Total, cash expenses	108.22	112.26
Gross value of production less cash expenses	31.00	-14.17
Harvest-period price (dollars/bu.)	3.66	3.12
Yield (bu./planted acre)	37.62	30.95

Table 22B--Wheat production economic costs and returns,  
Southeast, 1989-90

Item	1989	1990
Dollars per planted acre		
Gross value of production (excluding direct Government payments):		
Wheat	137.69	96.56
Wheat straw	1.53	1.53
Total, gross value of production	139.22	98.09
Economic (full ownership) costs:		
Variable cash expenses	83.62	82.78
General farm overhead	6.43	6.54
Taxes and insurance	8.51	14.72
Capital replacement	8.83	8.17
Operating capital	3.36	3.09
Other nonland capital	8.37	9.06
Land	12.46	11.63
Unpaid labor	7.33	7.70
Subtotal	138.91	143.69
Residual returns to management and risk	0.31	-45.60
Harvest-period price (dollars/bu.)	3.66	3.12
Yield (bu./planted acre)	37.62	30.95

Figure 15

## Rice Production Regions

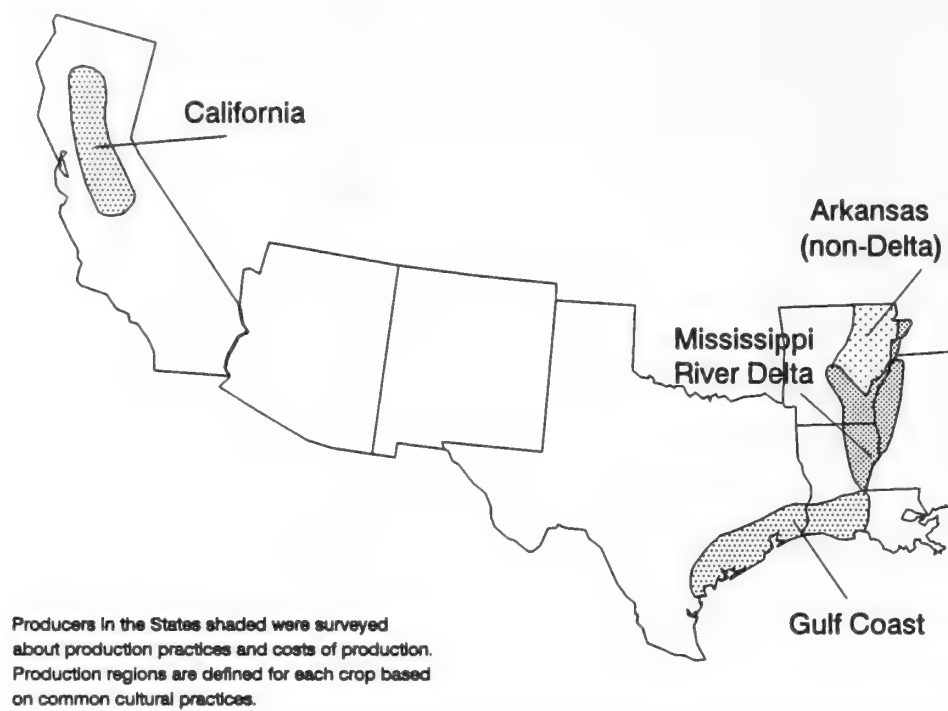


Figure 16

## Rice production costs per planted acre, including direct Government payments and participation costs, 1990 Dollars

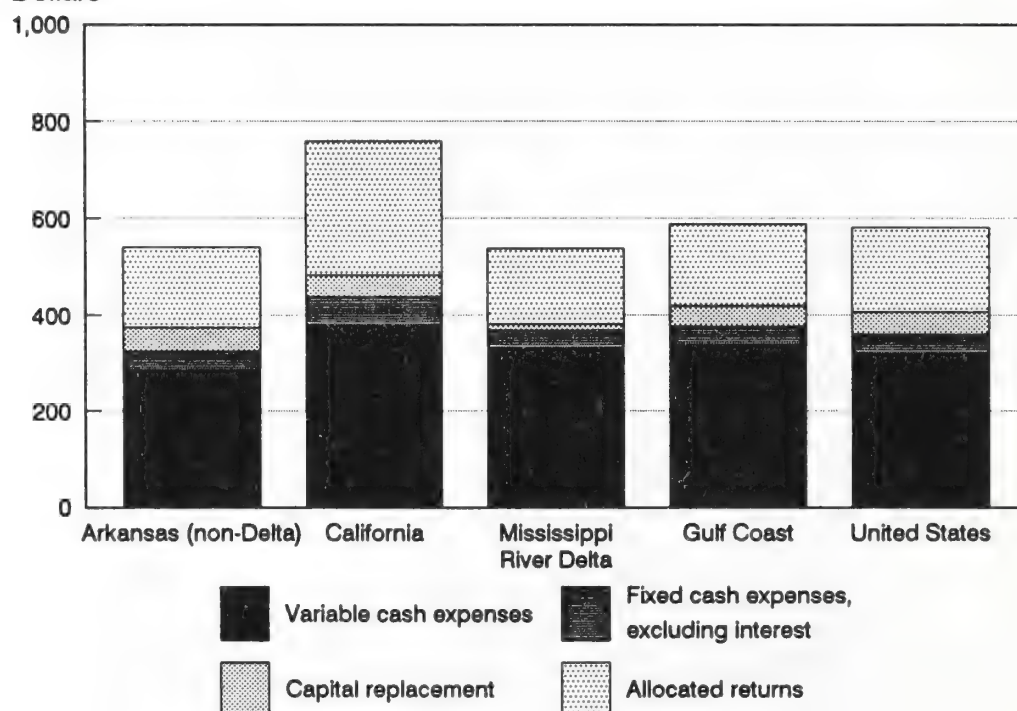




Table 23A--U.S. rice production cash costs and returns, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct Government payments):																
Rice	364.59	314.93	400.26	348.08	460.07	462.37	487.67	356.65	400.12	393.22	430.71	218.41	263.89	366.85	415.64	319.42
Total, gross value of production	364.59	314.93	400.26	348.08	460.07	462.37	487.67	356.65	400.12	393.22	430.71	218.41	263.89	366.85	415.64	319.42
Cash expenses:																
Seed	28.00	23.48	19.72	25.69	23.07	28.94	29.95	26.10	25.89	25.51	24.21	19.89	21.01	21.22	21.43	21.51
Fertilizer	44.39	29.62	28.00	27.24	28.49	36.04	38.85	37.78	35.51	35.61	34.06	35.34	30.96	35.45	38.43	35.59
Chemicals	17.72	25.02	22.20	20.84	22.93	22.93	25.08	26.63	28.04	5.51	5.69	42.06	39.08	39.21	40.60	42.99
Custom operations	19.26	21.26	21.70	23.44	26.16	28.88	30.64	31.88	32.60	47.92	47.81	36.52	36.23	32.18	34.24	35.05
Fuel, lube, and electricity	19.94	21.66	21.97	23.40	33.35	43.41	49.83	50.48	46.45	38.72	44.56	37.53	47.10	55.19	58.11	64.23
Repairs	13.62	13.65	12.89	13.54	16.21	18.27	19.59	21.01	22.24	28.23	28.72	22.24	23.34	26.78	28.32	30.01
Hired labor	19.09	21.49	14.48	15.41	17.15	18.52	19.38	20.86	20.79	25.35	26.09	39.34	39.09	34.70	35.92	38.55
Purchased irrigation water	5.48	6.05	6.17	6.67	7.83	7.91	7.66	20.03	20.10	20.45	20.29	9.12	8.30	6.78	7.16	6.97
Drying	21.46	23.31	23.64	25.18	27.56	29.30	35.78	36.30	35.29	32.04	34.67	43.32	39.08	39.02	40.80	40.20
Miscellaneous	0	0	0	0	0	0	0	0	0	0	0	0	0.46	1.29	1.32	1.36
Technical services	0.30	0.29	0.29	0.30	0.28	0.26	1.51	1.48	1.48	5.24	5.31	1.29	1.28	0.44	0.47	0.48
Total, variable cash expenses	189.25	185.84	171.06	181.71	201.64	234.46	258.27	272.55	268.39	264.58	271.41	287.21	285.93	292.26	306.80	316.54
General farm overhead	20.09	20.99	22.35	24.82	27.00	27.95	25.99	23.40	23.08	23.67	26.08	20.77	20.28	21.60	20.97	23.96
Taxes and insurance	5.38	5.63	6.43	6.85	8.13	9.86	9.55	9.96	10.47	12.26	13.21	11.24	12.02	12.01	12.43	12.57
Interest on operating loans	21.53	19.91	19.04	21.34	25.88	31.08	35.13	35.64	26.53	27.16	25.20	22.56	15.89	13.30	13.37	14.28
Interest on real estate	31.21	31.20	31.15	31.15	31.29	31.47	26.44	22.59	22.85	26.86	27.20	12.54	10.16	11.41	12.38	13.53
Total, fixed cash expenses	78.21	77.74	78.98	84.15	92.30	100.36	97.11	91.59	82.93	89.95	91.69	67.11	58.35	58.32	59.15	64.34
Total, cash expenses	267.46	263.58	250.03	265.86	293.94	334.82	355.38	364.14	351.32	354.53	363.10	354.32	344.28	350.58	365.95	380.88
Gross value of production less cash expenses	97.13	51.35	150.23	82.21	166.14	127.55	132.29	-7.49	48.80	38.69	67.61	-135.91	-80.39	16.27	49.69	-61.46
Harvest-period price (dollars/ct.)	8.01	6.73	9.10	7.82	10.07	10.69	10.21	7.61	8.79	8.05	8.01	3.83	4.83	6.82	7.45	6.06
Yield (ct./planted acre)	45.54	46.79	43.99	44.49	45.70	43.24	47.75	46.86	45.53	48.87	53.78	56.97	54.67	53.79	55.79	52.71

Table 23B--U.S. rice production economic costs and returns, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct Government payments):																
Rice	364.59	314.93	400.26	348.08	460.07	462.37	487.67	356.65	400.12	393.22	430.71	218.41	263.89	366.85	415.64	319.42
Total, gross value of production	364.59	314.93	400.26	348.08	460.07	462.37	487.67	356.65	400.12	393.22	430.71	218.41	263.89	366.85	415.64	319.42
Economic (full ownership) costs:																
Variable cash expenses	189.25	185.84	171.06	181.71	201.64	234.46	258.27	272.55	268.39	264.58	271.41	287.21	285.93	292.26	306.80	316.54
General farm overhead	20.09	20.99	22.35	24.82	27.00	27.95	25.99	23.40	23.08	23.67	26.08	20.77	20.28	21.60	20.97	23.96
Taxes and insurance	5.38	5.63	6.43	6.85	8.13	9.86	9.55	9.96	10.47	12.26	13.21	11.24	12.02	12.01	12.43	12.57
Capital replacement	29.04	26.86	28.82	31.05	37.08	40.15	42.94	45.27	47.94	49.71	51.44	40.69	44.27	41.54	43.81	45.76
Operating capital	4.35	3.69	3.21	6.70	6.42	8.40	11.00	8.89	6.78	7.88	6.18	5.01	5.65	10.11	12.33	11.82
Other nonland capital	8.03	6.95	6.66	6.70	7.86	7.76	7.51	7.82	7.31	10.12	10.03	7.65	8.01	16.70	20.17	22.21
Land	67.37	58.12	74.36	70.47	96.26	87.84	92.13	53.80	65.00	68.86	75.74	25.59	34.24	61.89	72.78	48.67
Unpaid labor	13.26	14.94	10.06	10.71	11.91	12.87	13.47	14.50	14.44	17.62	18.13	23.20	23.54	22.88	23.95	25.20
Subtotal	336.77	323.01	322.94	337.00	396.30	429.29	440.86	435.99	443.42	454.70	472.21	421.36	433.94	478.99	513.14	506.73
Residual returns to management and risk	27.82	-8.08	77.32	11.07	63.78	33.08	26.81	-79.34	-43.30	-61.48	-41.50	-202.95	-170.05	-112.14	-97.50	-187.31
Harvest-period price (dollars/ct.)	8.01	6.73	9.10	7.82	10.07	10.69	10.21	7.61	8.79	8.05	8.01	3.83	4.83	6.82	7.45	6.06
Yield (ct./planted acre)	45.54	46.79	43.99	44.49	45.70	43.24	47.75	46.86	45.53	48.87	53.78	56.97	54.67	53.79	55.79	52.71

Note: Survey base changed in 1984 and 1986.

Table 23C--U.S. rice production cash costs and returns,  
including direct Government payments and  
program participation costs, 1988-90

Item	1988	1989	1990
Dollars per planted acre			
Gross value of production:			
Market value of rice	366.85	415.64	319.42
Direct Government payments	219.81	232.32	274.30
Total, gross value of production	586.66	647.96	593.72
Cash expenses:			
Seed	21.22	21.43	21.51
Fertilizer	35.45	38.43	35.59
Chemicals	39.23	40.62	42.61
Custom operations	32.18	34.24	35.05
Fuel, lube, and electricity	55.67	58.60	64.80
Repairs	28.09	29.69	31.46
Hired labor	34.88	36.10	38.75
Purchased irrigation water	6.78	7.16	6.97
Drying	39.02	40.80	40.20
Miscellaneous	1.34	1.38	1.41
Technical services	.44	.47	.48
Total, variable cash expenses	294.30	308.92	318.83
General farm overhead	24.76	24.04	27.53
Taxes and insurance	12.21	12.63	12.77
Interest on operating loans	15.31	15.40	16.47
Interest on real estate	13.09	14.20	15.55
Total, fixed cash expenses	65.37	66.27	72.32
Total, cash expenses	359.67	375.19	391.15
Gross value of production less cash expenses	226.99	272.77	202.57
Harvest-period price (dollars/cwt.)	6.82	7.45	6.06
Yield (cwt./planted acre)	53.79	55.79	52.71

Table 23D--U.S. rice production economic costs and returns,  
including direct Government payments and  
program participation costs, 1988-90

Item	1988	1989	1990
Dollars per planted acre			
Gross value of production:			
Market value of rice	366.85	415.64	319.42
Direct Government payments	219.81	232.32	274.30
Total, gross value of production	586.66	647.96	593.72
Economic (full ownership) costs:			
Variable cash expenses	294.30	308.92	318.83
General farm overhead	24.76	24.04	27.53
Taxes and insurance	12.21	12.63	12.77
Capital replacement	42.14	44.44	46.43
Operating capital	10.18	12.42	11.91
Other nonland capital	17.14	20.71	22.79
Land	117.83	133.77	114.64
Unpaid labor	23.02	24.09	25.36
Subtotal	541.58	581.02	580.26
Residual returns to management and risk	45.08	66.94	13.46
Harvest-period price (dollars/cwt.)	6.82	7.45	6.06
Yield (cwt./planted acre)	53.79	55.79	52.71



Table 24A--Rice production cash costs and returns, Arkansas (non-Delta), 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct Government payments):																
Rice	376.42	320.74	391.81	346.46	431.31	426.21	450.74	333.63	381.21	379.02	445.69	208.79	263.71	370.69	420.14	300.41
Total, gross value of production	376.42	320.74	391.81	346.46	431.31	426.21	450.74	333.63	381.21	379.02	445.69	208.79	263.71	370.69	420.14	300.41
Cash expenses:																
Seed	26.14	21.00	20.57	27.43	22.23	31.74	31.82	24.95	27.43	26.75	21.78	18.72	19.98	19.06	19.46	19.60
Fertilizer	38.55	26.24	26.48	25.89	26.48	34.51	36.74	36.00	32.08	27.89	27.11	31.39	27.50	32.06	34.68	31.64
Chemicals	18.45	17.17	21.15	19.93	20.33	21.61	23.59	25.40	26.69	1.21	1.21	32.67	31.90	32.41	33.69	35.47
Custom operations	15.29	16.65	16.33	17.94	19.18	21.63	22.93	23.79	24.61	36.92	36.51	29.47	30.28	25.16	28.82	27.65
Fuel, lube, and electricity	21.19	22.72	22.14	23.98	33.96	45.45	54.48	52.82	48.61	46.28	54.54	38.23	50.77	58.97	62.55	70.15
Repairs	13.72	13.56	12.31	13.15	15.31	17.42	18.63	19.91	21.14	32.25	33.08	28.10	28.33	28.73	30.40	31.92
Hired labor	22.43	23.57	14.48	15.88	17.32	19.12	19.49	22.19	21.20	27.03	26.85	35.18	34.94	32.40	33.60	37.30
Purchased irrigation water	0.64	0.70	0.68	0.75	0.96	1.07	1.07	0	0	0	0	0	0	0	0	0
Drying	23.24	24.91	24.28	26.30	28.52	29.99	35.89	34.12	33.78	20.73	23.31	33.99	32.70	32.63	34.90	31.83
Miscellaneous	0	0	0	0	0	0	0	0	0	0	0	1.33	1.32	1.33	1.37	1.42
Technical services	0	0	0	0	0	0	1.61	1.61	1.61	5.28	5.28	0.15	0.15	0.15	0.16	0.17
Total, variable cash expenses	179.66	176.52	158.43	171.25	184.29	222.54	246.25	240.79	237.15	224.34	229.67	249.23	257.87	262.90	277.63	287.15
General farm overhead	20.92	21.86	23.27	25.09	25.69	25.38	24.04	17.37	17.25	17.78	26.25	16.61	16.22	18.35	17.81	20.62
Taxes and insurance	5.90	5.94	6.24	6.76	7.99	7.74	8.02	8.25	8.84	11.27	12.16	12.74	13.29	12.69	13.10	13.30
Interest on operating loans	22.04	20.38	19.49	21.84	26.49	31.81	32.96	34.49	21.38	22.69	27.45	18.01	12.69	11.33	11.40	12.26
Interest on real estate	32.72	32.71	32.66	32.65	32.80	32.99	24.33	21.59	13.80	22.47	22.42	15.01	12.15	15.00	16.00	17.82
Total, fixed cash expenses	81.57	80.89	81.66	86.34	92.97	97.92	89.35	81.70	61.27	74.21	88.28	62.37	54.35	57.37	58.31	64.00
Total, cash expenses	261.23	257.41	240.09	257.59	277.27	320.46	335.60	322.49	298.42	298.55	317.95	311.60	312.22	320.27	335.94	351.15
Gross value of production less cash expenses	115.18	63.33	151.72	88.87	154.04	105.75	115.14	11.14	82.79	80.97	127.74	-102.81	-48.51	50.42	84.20	-50.74
Harvest-period price (dollars/ct.)	7.96	6.69	9.05	7.78	10.01	10.30	9.95	7.74	8.93	8.19	8.57	3.87	4.92	6.93	7.52	6.08
Yield (ct./planted acre)	47.30	47.94	43.32	44.55	43.10	41.38	45.30	43.10	42.69	46.28	52.01	53.95	53.60	53.49	55.87	49.41

Table 24B--Rice production economic costs and returns, Arkansas (non-Delta), 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct Government payments):																
Rice	376.42	320.74	391.81	346.46	431.31	426.21	450.74	333.63	381.21	379.02	445.69	208.79	263.71	370.69	420.14	300.41
Total, gross value of production	376.42	320.74	391.81	346.46	431.31	426.21	450.74	333.63	381.21	379.02	445.69	208.79	263.71	370.69	420.14	300.41
Economic (full ownership) costs:																
Variable cash expenses	179.66	176.52	158.43	171.25	184.29	222.54	246.25	240.79	237.15	224.34	229.67	249.23	257.87	262.90	277.63	287.15
General farm overhead	20.92	21.86	23.27	25.09	25.69	25.38	24.04	17.37	17.25	17.78	26.25	16.61	16.22	18.35	17.81	20.62
Taxes and insurance	5.90	5.94	6.24	6.76	7.99	7.74	8.02	8.25	8.84	11.27	12.16	12.74	13.29	12.69	13.10	13.30
Capital replacement	33.28	30.03	25.94	28.79	34.34	38.12	40.16	41.70	44.32	56.15	57.58	60.45	60.94	45.50	47.81	49.44
Operating capital	4.00	3.48	2.87	4.32	5.49	7.77	10.16	8.05	6.34	6.86	5.33	4.59	5.27	9.10	11.16	10.73
Other nonland capital	9.47	8.00	6.17	6.40	7.50	7.58	7.24	7.30	7.02	10.97	10.72	10.59	10.49	17.85	21.53	23.65
Land	79.93	69.46	85.72	82.62	100.88	87.63	90.61	53.92	67.27	78.15	94.90	15.84	29.01	58.62	69.63	40.30
Unpaid labor	15.59	16.38	10.06	11.03	12.04	13.29	13.54	15.42	14.74	18.78	18.66	16.30	16.19	16.87	17.48	19.42
Subtotal	348.75	331.67	318.69	336.26	378.21	410.05	440.02	392.80	402.93	424.30	455.27	386.35	409.28	441.88	476.15	466.61
Residual returns to management and risk	27.66	-10.93	73.12	10.20	53.09	16.16	10.72	-59.17	-21.72	-45.28	-9.58	-177.56	-145.57	-71.19	-56.01	-164.20
Harvest-period price (dollars/ct.)	7.96	6.69	9.05	7.78	10.01	10.30	9.95	7.74	8.93	8.19	8.57	3.87	4.92	6.93	7.52	6.08
Yield (ct./planted acre)	47.30	47.94	43.32	44.55	43.10	41.38	45.30	43.10	42.69	46.28	52.01	53.95	53.60	53.49	55.87	49.41

Note: Survey base changed in 1984 and 1986.

Table 24C--Rice production cash costs and returns, including direct  
Government payments and program participation costs,  
Arkansas (non-Delta), 1988-90

Item	1988	1989	1990
Dollars per planted acre			
Gross value of production:			
Market value of rice	370.69	420.14	300.41
Direct Government payments	213.48	226.99	260.98
Total, gross value of production	584.17	647.13	561.39
Cash expenses:			
Seed	19.06	19.46	19.60
Fertilizer	32.06	34.68	31.64
Chemicals	32.41	33.69	35.47
Custom operations	25.16	26.82	27.65
Fuel, lube, and electricity	59.35	62.95	70.63
Repairs	29.97	31.70	33.29
Hired labor	32.56	33.76	37.47
Drying	32.63	34.90	31.83
Miscellaneous	1.42	1.47	1.51
Technical services	.15	.16	.17
Total, variable cash expenses	264.77	279.59	289.26
General farm overhead	22.02	21.37	24.74
Taxes and insurance	12.86	13.27	13.48
Interest on operating loans	13.66	13.74	14.78
Interest on real estate	17.73	18.92	21.07
Total, fixed cash expenses	66.27	67.30	74.07
Total, cash expenses	331.04	346.89	363.33
Gross value of production less cash expenses	253.13	300.24	198.06
Harvest-period price (dollars/cwt.)	6.93	7.52	6.08
Yield (cwt./planted acre)	53.49	55.87	49.41

Table 24D--Rice production economic costs and returns, including direct  
Government payments and program participation costs,  
Arkansas (non-Delta), 1988-90

Item	1988	1989	1990
Dollars per planted acre			
Gross value of production:			
Market value of rice	370.69	420.14	300.41
Direct Government payments	213.48	226.99	260.98
Total, gross value of production	584.17	647.13	561.39
Economic (full ownership) costs:			
Variable cash expenses	264.77	279.59	289.26
General farm overhead	22.02	21.37	24.74
Taxes and insurance	12.86	13.27	13.48
Capital replacement	46.01	48.35	50.01
Operating capital	9.16	11.24	10.80
Other nonland capital	18.23	21.99	24.16
Land	119.55	134.72	110.17
Unpaid labor	16.99	17.61	19.56
Subtotal	509.59	548.14	542.18
Residual returns to management and risk	74.58	98.99	19.21
Harvest-period price (dollars/cwt.)	6.93	7.52	6.08
Yield (cwt./planted acre)	53.49	55.87	49.41



Table 25A--Rice production cash costs and returns, California, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct government payments):																
Rice	443.80	362.69	508.61	392.68	631.12	697.05	671.87	499.34	582.15	534.86	531.88	281.84	316.19	412.87	515.91	401.41
Total, gross value of production	443.80	362.69	508.61	392.68	631.12	697.05	671.87	499.34	582.15	534.86	531.88	281.84	316.19	412.87	515.91	401.41
Cash expenses:																
Seed	24.55	24.55	20.07	31.01	28.23	25.79	30.68	31.33	24.15	26.56	26.56	21.09	21.59	22.01	22.06	22.09
Fertilizer	46.57	34.47	33.29	32.97	32.94	41.48	43.66	45.35	43.52	37.38	34.70	37.26	34.37	38.63	41.07	41.89
Chemicals	10.23	15.43	20.24	18.98	19.36	20.60	22.41	24.03	25.24	6.00	6.00	49.12	47.96	48.74	50.66	53.34
Custom operations	32.89	32.89	38.67	37.09	43.27	48.54	52.90	55.08	57.75	58.34	57.77	47.20	48.49	48.23	51.42	53.02
Fuel, lube, and electricity	12.45	12.80	14.32	13.54	18.67	25.76	29.88	30.54	28.50	26.82	32.28	34.69	47.51	54.85	59.08	58.40
Repairs	16.41	15.56	16.21	15.12	17.41	20.16	22.00	23.69	25.15	34.65	34.53	20.57	20.58	21.44	22.80	24.49
Hired labor	20.30	20.37	14.42	15.36	16.60	18.24	18.50	19.55	19.41	30.92	32.65	41.37	44.08	40.36	42.86	42.61
Purchased irrigation water	13.38	13.97	15.73	15.09	16.65	18.37	19.81	24.32	24.41	24.83	24.63	21.51	21.73	21.64	23.59	24.32
Drying	22.04	22.65	25.35	23.97	30.23	37.62	45.43	49.72	51.26	46.04	47.33	53.47	47.89	48.03	55.59	55.09
Miscellaneous	0	0	0	0	0	0	0	0	0	0	0	1.41	1.40	1.41	1.46	1.50
Technical services	0	0	0	0	0	0	1.42	1.42	1.42	8.28	8.28	1.15	1.14	1.15	1.25	1.29
Total, variable cash expenses	198.81	194.15	198.30	203.13	223.36	256.56	286.69	305.03	300.80	299.82	304.73	337.64	336.74	346.49	371.84	378.04
General farm overhead	30.20	31.56	33.59	36.21	42.94	41.00	38.03	53.59	54.13	55.16	39.09	35.78	34.93	37.92	36.81	42.60
Taxes and insurance	5.83	6.20	6.55	6.97	8.09	18.85	18.96	16.44	18.68	22.28	22.78	14.50	14.65	16.80	17.66	18.10
Interest on operating loans	29.59	27.37	28.17	29.33	35.57	42.71	47.57	52.01	52.12	51.28	26.86	38.50	27.11	18.68	18.79	20.21
Interest on real estate	57.20	57.19	57.10	57.09	57.35	57.68	40.30	30.96	66.00	57.71	65.26	30.03	24.32	25.76	27.48	30.61
Total, fixed cash expenses	122.82	122.31	123.41	129.59	143.95	160.24	144.86	153.00	190.93	186.43	153.99	118.81	101.01	99.16	100.74	111.52
Total, cash expenses	321.63	316.46	321.71	332.73	367.31	416.80	431.55	458.03	491.73	486.25	458.72	456.45	437.75	445.65	472.58	489.56
Gross value of production less cash expenses	122.17	46.23	186.90	59.95	263.81	280.25	240.32	31.31	90.42	48.61	73.16	-174.61	-121.56	-32.78	43.33	-88.15
Harvest-period price (dollars/acre)	7.74	6.51	8.80	7.57	9.74	10.90	9.85	7.21	8.32	7.63	7.38	3.69	4.49	5.95	6.61	5.35
Yield (cwt./planted acre)	57.30	55.70	57.78	51.88	64.80	63.95	68.21	67.87	69.97	70.10	72.07	76.38	70.42	69.39	78.05	75.03

Table 25B--Rice production economic costs and returns, California, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct government payments):																
Rice	443.80	362.69	508.61	392.68	631.12	697.05	671.87	499.34	582.15	534.86	531.88	281.84	316.19	412.87	515.91	401.41
Total, gross value of production	443.80	362.69	508.61	392.68	631.12	697.05	671.87	499.34	582.15	534.86	531.88	281.84	316.19	412.87	515.91	401.41
Economic (full ownership) costs:																
Variable cash expenses	198.81	194.15	198.30	203.13	223.36	256.56	286.69	305.03	300.80	299.82	304.73	337.64	336.74	346.49	371.84	378.04
General farm overhead	30.20	31.56	33.59	36.21	42.94	41.00	38.03	53.59	54.13	55.16	39.09	35.78	34.93	37.92	36.81	42.60
Taxes and insurance	5.83	6.20	6.55	6.97	8.09	18.85	18.96	16.44	18.68	22.28	22.78	14.50	14.65	16.80	17.66	18.10
Capital replacement	26.27	30.35	27.94	30.38	35.90	39.27	43.49	46.87	49.75	62.22	64.34	30.70	30.71	38.83	41.21	43.99
Operating capital	4.19	3.62	3.17	4.98	6.84	8.51	11.23	9.44	7.27	10.05	7.93	6.36	7.24	11.99	14.95	14.12
Other nonland capital	7.02	7.59	6.23	6.33	7.35	7.34	7.35	7.56	7.26	12.22	11.97	5.95	5.84	15.89	19.24	21.36
Land	99.50	80.85	114.05	83.92	158.83	159.63	150.95	101.71	125.29	111.15	108.62	72.03	81.70	114.12	135.18	104.44
Unpaid labor	14.10	14.15	10.02	10.68	11.54	12.68	12.85	13.58	13.48	21.49	22.68	42.25	44.21	46.99	49.61	49.61
Subtotal	365.91	368.47	399.86	382.60	494.85	543.84	569.54	554.22	576.67	594.39	582.14	545.21	556.02	629.03	686.79	672.26
Residual returns to management and risk	57.88	-5.78	108.76	10.07	136.27	153.21	102.33	-64.88	5.48	-59.53	-50.26	-263.37	-239.83	-216.16	-170.88	-270.85
Harvest-period price (dollars/acre)	7.74	6.51	8.80	7.57	9.74	10.90	9.85	7.21	8.32	7.63	7.38	3.69	4.49	5.95	6.61	5.35
Yield (cwt./planted acre)	57.30	55.70	57.78	51.88	64.80	63.95	68.21	67.87	69.97	70.10	72.07	76.38	70.42	69.39	78.05	75.03

Note: Survey base changed in 1984 and 1986.

Table 25C--Rice production cash costs and returns, including direct Government payments and program participation costs, California, 1988-90

Item	1988	1989	1990
Dollars per planted acre			
Gross value of production:			
Market value of rice	412.87	515.91	401.41
Direct Government payments	327.26	331.86	417.81
Total, gross value of production	740.13	847.77	819.22
Cash expenses:			
Seed	22.01	22.06	22.09
Fertilizer	38.63	41.07	41.89
Chemicals	48.85	50.77	53.46
Custom operations	48.26	51.45	53.05
Fuel, lube, and electricity	55.18	59.46	58.78
Repairs	21.81	23.20	24.92
Hired labor	40.49	43.00	42.74
Purchased irrigation water	21.64	23.59	24.32
Drying	48.03	55.59	55.09
Miscellaneous	1.51	1.56	1.60
Technical services	1.15	1.25	1.29
Total, variable cash expenses	347.56	373.00	379.23
General farm overhead	40.79	39.58	45.82
Taxes and insurance	16.93	17.79	18.22
Interest on operating loans	20.80	20.92	22.50
Interest on real estate	27.78	29.64	33.01
Total, fixed cash expenses	106.30	107.93	119.55
Total, cash expenses	453.86	480.93	498.78
Gross value of production less cash expenses	286.27	366.84	320.44
Harvest-period price (dollars/cwt.)	5.95	6.61	5.35
Yield (cwt./planted acre)	69.39	78.05	75.03

Table 25D--Rice production economic costs and returns, including direct Government payments and program participation costs, California, 1988-90

Item	1988	1989	1990
Dollars per planted acre			
Gross value of production:			
Market value of rice	412.87	515.91	401.41
Direct Government payments	327.26	331.86	417.81
Total, gross value of production	740.13	847.77	819.22
Economic (full ownership) costs:			
Variable cash expenses	347.56	373.00	379.23
General farm overhead	40.79	39.58	45.82
Taxes and insurance	16.93	17.79	18.22
Capital replacement	39.22	41.62	44.42
Operating capital	12.03	14.99	14.16
Other nonland capital	16.20	19.61	21.77
Land	187.90	213.15	191.42
Unpaid labor	47.13	50.04	49.75
Subtotal	707.76	769.78	764.79
Residual returns to management and risk	32.37	77.99	54.43
Harvest-period price (dollars/cwt.)	5.95	6.61	5.35
Yield (cwt./planted acre)	69.39	78.05	75.03



Table 264--Rice production cash costs and returns, Mississippi River Delta, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct Government payments):																
Rice	312.62	294.55	375.75	331.68	413.22	372.28	441.71	307.97	353.60	344.73	396.26	202.77	239.94	351.65	399.69	304.53
Total, gross value of production	312.62	294.55	375.75	331.68	413.22	372.28	441.71	307.97	353.60	344.73	396.26	202.77	239.94	351.65	399.69	304.53
Cash expenses:																
Seed	32.40	24.30	20.08	26.41	21.41	30.58	30.58	23.91	26.27	23.48	23.48	17.83	19.01	20.76	20.82	20.85
Fertilizer	32.40	24.00	29.56	20.72	22.36	26.96	30.75	28.57	29.87	39.61	37.62	31.57	26.00	31.47	34.35	33.27
Chemicals	19.05	27.75	22.05	24.92	25.42	27.04	29.44	31.55	33.14	12.87	12.87	46.46	45.37	46.10	47.92	50.46
Custom operations	16.36	19.69	20.17	26.12	23.62	26.42	28.34	29.46	30.49	49.32	50.40	37.67	38.71	37.07	39.52	40.75
Fuel, lube, and electricity	20.35	24.12	24.55	26.54	36.47	43.54	52.07	52.77	47.20	43.98	48.54	29.37	39.75	53.53	56.07	63.25
Repairs	10.34	11.31	10.72	11.43	13.27	15.16	16.29	17.53	18.66	22.03	22.87	22.00	21.84	29.00	30.73	32.46
Hired labor	16.81	21.28	15.22	13.82	15.62	16.33	17.05	16.92	17.82	20.16	20.42	38.88	38.62	38.39	39.81	44.19
Purchased irrigation water	0	0	0	0	0	0	0	0	0	0	0	0.43	0.43	0.44	0.48	0.50
Drying	19.85	23.53	23.95	25.89	28.63	26.73	32.08	30.38	30.24	26.18	30.58	39.93	36.13	40.15	43.03	41.59
Miscellaneous	0	0	0	0	0	0	1.44	1.44	1.44	5.54	5.54	0.85	0.84	0.85	1.35	1.39
Technical services	0	0	0	0	0	0	1.44	1.44	1.44	5.54	5.54	0.85	0.84	0.85	1.35	1.39
Total, variable cash expenses	167.56	175.98	166.29	171.85	186.80	212.76	238.04	232.53	235.13	243.17	252.32	266.30	268.00	299.07	315.00	329.66
General farm overhead	15.10	15.78	16.80	20.05	20.53	22.07	22.23	15.99	16.41	16.37	23.34	19.55	19.08	19.61	19.03	22.03
Taxes and insurance	5.64	5.64	6.63	6.52	7.66	6.88	6.88	8.82	8.03	10.33	11.35	10.70	10.83	10.36	10.60	10.76
Interest on operating loans	22.74	21.03	20.11	22.54	27.33	32.82	31.75	31.75	20.34	20.89	24.41	17.87	12.58	11.74	11.81	12.70
Interest on real estate	19.53	19.52	19.49	19.49	19.58	19.69	22.50	19.88	13.13	20.69	19.93	6.24	5.06	5.55	5.92	6.59
Total, fixed cash expenses	63.01	61.98	63.03	68.59	75.10	81.46	82.08	76.44	57.91	68.28	79.03	54.36	47.55	47.26	47.36	52.08
Total, cash expenses	230.57	237.96	229.33	240.44	261.89	294.22	320.12	308.97	293.04	311.45	331.35	320.66	315.55	346.33	362.36	381.74
Gross value of production less cash expenses	82.05	56.60	146.42	91.24	151.33	78.06	121.59	-1.00	60.56	33.28	64.91	-117.89	-75.61	5.32	37.33	-77.21
Harvest-period price (dollars/acre.)	7.99	6.72	9.09	7.81	10.05	10.13	10.43	7.68	8.86	8.03	7.90	3.91	4.98	6.94	7.53	6.12
Yield (cwt./planted acre)	39.10	43.82	41.35	42.45	41.10	36.75	42.35	40.10	39.91	42.93	50.16	51.86	48.18	50.67	53.08	49.76

Table 268--Rice production economic costs and returns, Mississippi River Delta, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct Government payments):																
Rice	312.62	294.55	375.75	331.68	413.22	372.28	441.71	307.97	353.60	344.73	396.26	202.77	239.94	351.65	399.69	304.53
Total, gross value of production	312.62	294.55	375.75	331.68	413.22	372.28	441.71	307.97	353.60	344.73	396.26	202.77	239.94	351.65	399.69	304.53
Economic (full ownership) costs:																
Variable cash expenses	167.56	175.98	166.29	171.85	186.80	212.76	238.04	232.53	235.13	243.17	252.32	266.30	268.00	299.07	315.00	329.66
General farm overhead	15.10	15.78	16.80	20.05	20.53	22.07	22.23	15.99	16.41	16.37	23.34	19.55	19.08	19.61	19.03	22.03
Taxes and insurance	5.64	5.64	6.63	6.52	7.66	6.88	6.88	8.82	8.03	10.33	11.35	10.70	10.83	10.36	10.60	10.76
Capital replacement	30.77	28.04	32.86	26.55	31.70	35.36	37.45	38.96	41.43	45.11	46.38	40.29	40.19	39.64	41.86	43.75
Operating capital	3.74	3.46	3.62	4.27	5.66	7.43	9.91	7.76	5.42	6.80	5.34	4.79	5.43	10.35	12.66	12.31
Other nonland capital	8.73	7.44	7.79	5.88	6.90	7.00	6.73	6.81	6.56	10.03	9.96	7.81	7.64	15.87	19.18	21.12
Land	51.67	50.60	64.82	62.63	79.59	63.50	77.69	38.33	48.93	47.91	50.89	21.68	26.06	60.68	71.45	48.61
Unpaid labor	11.68	14.79	10.58	9.61	10.85	11.35	11.85	11.75	12.38	14.01	14.19	14.75	14.65	15.26	15.82	17.57
Subtotal	294.90	301.73	309.40	307.36	349.68	366.35	410.78	360.95	374.29	393.73	413.77	385.87	391.88	470.84	505.60	505.81
Residual returns to management and risk	17.72	-7.18	66.35	24.32	63.54	5.93	30.93	-52.98	-20.69	-49.00	-17.51	-183.10	-151.94	-119.19	-105.91	-201.28
Harvest-period price (dollars/acre.)	7.99	6.72	9.09	7.81	10.05	10.13	10.43	7.68	8.86	8.03	7.90	3.91	4.98	6.94	7.53	6.12
Yield (cwt./planted acre)	39.10	43.82	41.35	42.45	41.10	36.75	42.35	40.10	39.91	42.93	50.16	51.86	48.18	50.67	53.08	49.76

Note: Survey base changed in 1984 and 1986.

Table 26C--Rice production cash costs and returns, including direct  
Government payments and program participation costs,  
Mississippi River Delta, 1988-90

Item	1988	1989	1990
Dollars per planted acre			
Gross value of production:			
Market value of rice	351.65	399.69	304.53
Direct Government payments	193.42	202.97	235.63
Total, gross value of production	545.07	602.66	540.16
Cash expenses:			
Seed	20.76	20.82	20.85
Fertilizer	31.47	34.35	33.27
Chemicals	46.12	47.94	50.48
Custom operations	37.07	39.52	40.75
Fuel, lube, and electricity	54.25	56.79	64.10
Repairs	31.51	33.38	35.23
Hired labor	38.67	40.10	44.51
Purchased irrigation water	.44	.48	.50
Drying	40.15	43.03	41.59
Miscellaneous	1.31	1.35	1.39
Technical services	.85	.92	.95
Total, variable cash expenses	302.60	318.68	333.62
General farm overhead	23.39	22.70	26.27
Taxes and insurance	10.67	10.92	11.08
Interest on operating loans	13.85	13.93	14.99
Interest on real estate	6.64	7.09	7.89
Total, fixed cash expenses	54.55	54.64	60.23
Total, cash expenses	357.15	373.32	393.85
Gross value of production less cash expenses	187.92	229.34	146.31
Harvest-period price (dollars/cwt.)	6.94	7.53	6.12
Yield (cwt./planted acre)	50.67	53.08	49.76

Table 26D--Rice production economic costs and returns, including direct  
Government payments and program participation costs,  
Mississippi River Delta, 1988-90

Item	1988	1989	1990
Dollars per planted acre			
Gross value of production:			
Market value of rice	351.65	399.69	304.53
Direct Government payments	193.42	202.97	235.63
Total, gross value of production	545.07	602.66	540.16
Economic (full ownership) costs:			
Variable cash expenses	302.60	318.68	333.62
General farm overhead	23.39	22.70	26.27
Taxes and insurance	10.67	10.92	11.08
Capital replacement	40.58	42.86	44.80
Operating capital	10.47	12.81	12.46
Other nonland capital	16.54	19.99	22.00
Land	109.43	125.77	104.20
Unpaid labor	15.42	15.99	17.76
Subtotal	529.10	569.72	572.19
Residual returns to management and risk	15.97	32.94	-32.03
Harvest-period price (dollars/cwt.)	6.94	7.53	6.12
Yield (cwt./planted acre)	50.67	53.08	49.76



Table 27A--Rice production cash costs and returns, Gulf Coast, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct Government payments):																
Rice	344.24	302.69	375.81	340.36	419.34	431.64	466.07	345.07	363.62	371.69	384.13	203.13	247.68	355.79	367.08	326.98
Total, gross value of production	344.24	302.69	375.81	340.36	419.34	431.64	466.07	345.07	363.62	371.69	384.13	203.13	247.68	355.79	367.08	326.98
Cash expenses:																
Seed	29.00	24.35	16.68	21.46	21.99	26.98	27.01	26.11	24.74	25.14	26.35	21.90	23.23	24.76	24.98	25.10
Fertilizer	51.41	32.06	22.53	29.05	31.22	40.37	45.27	42.61	39.59	40.05	38.74	40.36	36.42	43.15	47.24	41.91
Chemicals	20.19	26.50	26.56	20.57	21.33	22.70	24.49	25.57	27.07	4.45	4.52	40.08	38.83	39.78	41.03	43.02
Custom operations	17.74	19.94	19.87	20.36	24.01	26.91	28.84	29.47	30.33	53.31	53.02	41.33	34.79	34.19	34.16	35.12
Fuel, lube, and electricity	21.65	23.95	23.73	26.32	38.62	50.54	53.75	57.31	52.70	32.84	36.49	41.33	46.83	50.82	52.11	57.48
Repairs	13.88	14.16	13.06	14.29	17.96	20.03	22.05	23.39	24.77	25.20	25.29	19.58	19.62	23.88	25.14	26.71
Hired labor	17.42	20.67	12.49	15.85	18.19	19.51	21.69	23.25	23.32	18.64	26.31	41.34	41.62	32.62	33.15	33.81
Purchased irrigation water	8.76	9.84	9.81	11.04	12.90	13.74	14.56	53.96	54.15	55.09	54.65	16.17	15.69	17.14	17.82	17.85
Drying	20.13	22.27	22.06	24.47	24.87	26.03	33.54	35.73	32.67	41.31	44.24	46.80	43.70	44.41	42.01	47.14
Miscellaneous	0	0	0	0	0	0	0	0	0	0	0	1.17	1.13	1.15	1.15	1.17
Technical services	0.81	0.79	0.79	0.82	0.78	0.80	1.50	1.42	1.39	3.40	3.40	0.22	0.21	0.23	0.24	0.24
Total, variable cash expenses	200.99	194.52	167.58	186.01	211.87	247.61	272.70	318.81	310.74	299.43	313.01	302.91	302.07	310.13	319.03	329.55
General farm overhead	20.68	21.61	23.00	22.50	22.85	27.30	24.70	18.78	18.85	19.26	20.68	18.72	18.27	21.78	20.88	23.99
Taxes and insurance	4.78	5.18	6.14	7.04	8.52	9.04	8.34	9.06	9.98	9.63	10.49	8.89	9.58	10.44	10.61	10.81
Interest on operating loans	16.17	14.30	14.30	16.03	19.44	23.34	34.62	30.77	23.94	24.24	22.26	23.28	16.40	15.59	15.64	16.81
Interest on real estate	23.92	23.91	23.88	23.87	23.98	24.12	24.51	21.11	18.36	20.33	16.96	5.86	4.74	5.05	5.36	5.94
Total, fixed cash expenses	65.55	65.66	67.32	69.43	74.79	83.80	92.17	79.72	71.13	73.46	70.39	56.75	48.99	52.86	52.49	57.55
Total, cash expenses	266.53	260.18	234.90	255.44	286.66	331.41	364.87	398.53	381.87	372.89	383.40	359.66	351.06	362.99	371.52	387.10
Gross value of production less cash expenses	77.70	42.51	140.91	84.92	132.68	100.23	101.20	-53.46	-18.25	-1.20	0.73	-156.53	-103.38	-7.20	-4.44	-60.12
Harvest-period price (dollars/cwt.)	8.27	6.96	9.40	8.09	10.41	11.24	10.64	7.77	8.98	8.23	7.94	3.86	4.89	7.03	7.63	6.27
Yield (cwt./planted acre)	41.60	43.51	39.96	42.09	40.30	38.40	43.82	44.40	40.48	45.15	48.36	52.65	50.63	50.61	48.11	52.15

Table 27B--Rice production economic costs and returns, Gulf Coast, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct Government payments):																
Rice	344.24	302.69	375.81	340.36	419.34	431.64	466.07	345.07	363.62	371.69	384.13	203.13	247.68	355.79	367.08	326.98
Total, gross value of production	344.24	302.69	375.81	340.36	419.34	431.64	466.07	345.07	363.62	371.69	384.13	203.13	247.68	355.79	367.08	326.98
Economic (full ownership) costs:																
Variable cash expenses	200.99	194.52	167.58	186.01	211.87	247.61	272.70	318.81	310.74	299.43	313.01	302.91	302.07	310.13	319.03	329.55
General farm overhead	20.68	21.61	23.00	22.50	22.85	27.30	24.70	18.78	18.85	19.26	20.68	18.72	18.27	21.78	20.88	23.99
Taxes and insurance	4.78	5.18	6.14	7.04	8.52	9.04	8.34	9.06	9.98	9.63	10.49	8.89	9.58	10.44	10.61	10.81
Capital replacement	27.13	22.86	24.27	35.57	42.82	45.47	50.21	53.10	56.13	39.80	41.09	33.84	33.90	38.10	40.04	42.14
Operating capital	4.86	3.95	2.80	5.07	7.32	9.53	12.68	10.37	8.10	8.67	6.90	4.71	5.32	10.73	12.83	12.31
Other nonland capital	7.32	5.77	5.47	7.49	8.86	8.63	8.55	8.64	8.27	8.22	8.13	6.55	6.44	15.95	19.22	21.11
Land	53.43	46.49	58.16	60.90	78.38	66.59	74.02	39.01	43.73	52.70	55.72	9.11	17.35	46.40	50.79	40.76
Unpaid labor	12.10	14.36	8.68	11.01	13.55	13.55	15.08	16.15	16.21	22.92	18.29	27.95	29.34	29.34	30.47	32.34
Subtotal	331.28	314.74	296.10	335.58	393.26	427.71	466.28	473.93	472.00	460.63	474.31	412.68	421.25	482.87	503.87	513.01
Residual returns to management and risk	12.96	-12.05	79.71	4.79	26.08	3.93	-0.21	-128.86	-108.38	-88.94	-90.18	-209.55	-173.57	-127.08	-136.79	-186.03
Harvest-period price (dollars/cwt.)	8.27	6.96	9.40	8.09	10.41	11.24	10.64	7.77	8.98	8.23	7.94	3.86	4.89	7.03	7.63	6.27
Yield (cwt./planted acre)	41.60	43.51	39.96	42.09	40.30	38.40	43.82	44.40	40.48	45.15	48.36	52.65	50.63	50.61	48.11	52.15

Note: Survey base changed in 1984 and 1986.

Table 27C--Rice production cash costs and returns, including direct Government payments and program participation costs, Gulf Coast, 1988-90

Item	1988	1989	1990
Dollars per planted acre			
Gross value of production:			
Market value of rice	355.79	367.08	326.98
Direct Government payments	209.06	223.06	275.70
Total, gross value of production	564.85	590.14	602.68
Cash expenses:			
Seed	24.76	24.98	25.10
Fertilizer	43.15	47.24	41.91
Chemicals	39.79	41.04	43.03
Custom operations	32.19	34.16	35.12
Fuel, lube, and electricity	51.29	52.56	58.00
Repairs	24.61	25.90	27.50
Hired labor	32.78	33.31	33.97
Purchased irrigation water	17.14	17.82	17.85
Drying	44.41	42.01	47.14
Miscellaneous	1.17	1.17	1.19
Technical services	.23	.24	.24
Total, variable cash expenses	311.52	320.43	331.05
General farm overhead	23.67	22.73	26.14
Taxes and insurance	10.61	10.78	10.98
Interest on operating loans	16.95	17.02	18.31
Interest on real estate	5.45	5.80	6.44
Total, fixed cash expenses	56.68	56.33	61.87
Total, cash expenses	368.20	376.76	392.92
Gross value of production less cash expenses	196.65	213.38	209.76
Harvest-period price (dollars/cwt.)	7.03	7.63	6.27
Yield (cwt./planted acre)	50.61	48.11	52.15

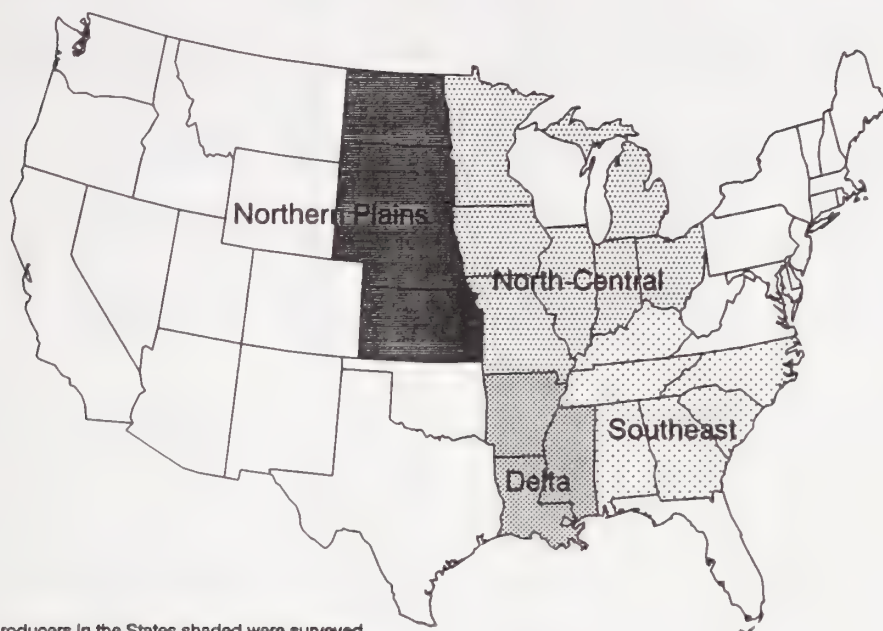
Table 27D--Rice production economic costs and returns, including direct Government payments and program participation costs, Gulf Coast, 1988-90

Item	1988	1989	1990
Dollars per planted acre			
Gross value of production:			
Market value of rice	355.79	367.08	326.98
Direct Government payments	209.06	223.06	275.70
Total, gross value of production	564.85	590.14	602.68
Economic (full ownership) costs:			
Variable cash expenses	311.52	320.43	331.05
General farm overhead	23.67	22.73	26.14
Taxes and insurance	10.61	10.78	10.98
Capital replacement	38.61	40.58	42.71
Operating capital	10.78	12.88	12.36
Other nonland capital	16.34	19.68	21.62
Land	93.48	103.72	101.41
Unpaid labor	29.49	30.62	32.50
Subtotal	534.50	561.42	578.77
Residual returns to management and risk	30.35	28.72	23.91
Harvest-period price (dollars/cwt.)	7.03	7.63	6.27
Yield (cwt./planted acre)	50.61	48.11	52.15



Figure 17

## Soybean Production Regions



Producers in the States shaded were surveyed about production practices and costs of production. Production regions are defined for each crop based on common cultural practices.

Figure 18

## Soybean production costs per planted acre, 1990

Dollars

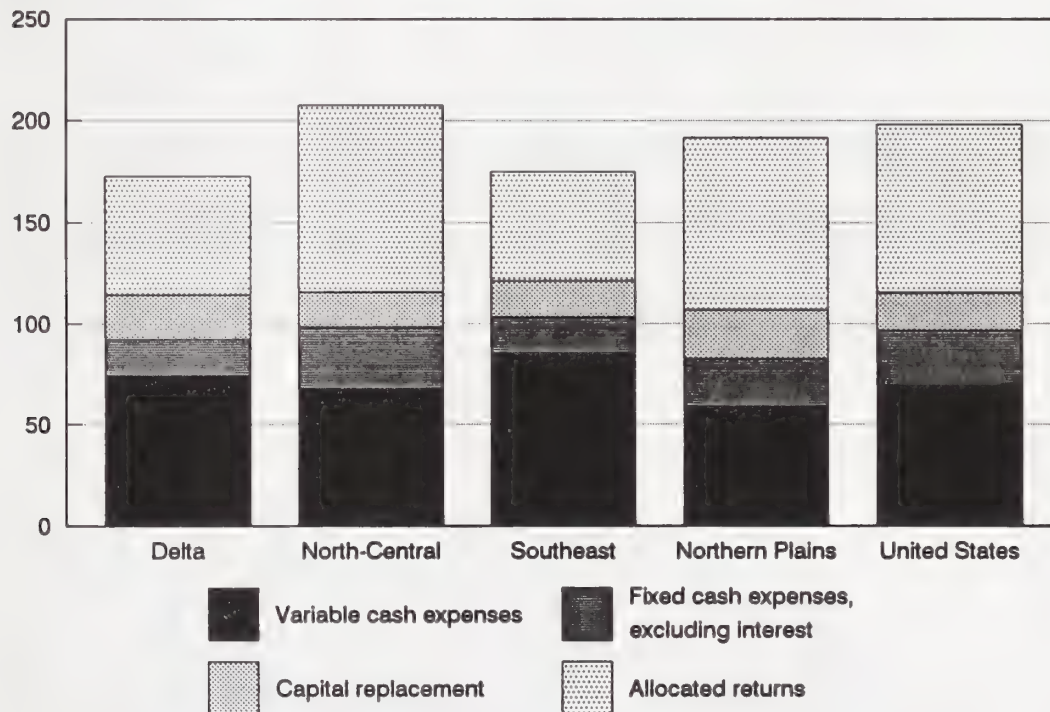


Table 28A--U.S. soybean production cash costs and returns, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production:																
Soybeans	139.93	172.46	178.46	195.43	201.32	199.71	179.48	160.64	204.46	166.72	165.96	150.64	171.66	201.49	175.63	195.49
Total, gross value of production	139.93	172.46	178.46	195.43	201.32	199.71	179.48	160.64	204.46	166.72	165.96	150.64	171.66	201.49	175.63	195.49
Cash expenses:																
Seed	8.32	6.26	9.48	8.88	9.19	7.87	10.70	8.52	7.98	10.97	12.92	10.82	11.16	12.01	15.04	12.47
Fertilizer, lime, and gypsum	5.66	5.21	6.19	6.64	7.49	9.36	9.78	9.46	8.74	8.89	6.18	5.35	5.29	6.61	10.66	9.57
Chemicals	10.19	10.30	9.34	12.51	12.78	13.64	14.86	18.33	19.18	19.56	12.41	12.37	12.04	12.24	19.48	20.48
Custom operations	1.88	1.80	2.34	2.42	2.59	2.85	3.48	3.83	3.84	3.87	4.01	4.01	4.00	4.00	3.39	3.45
Fuel, lube, and electricity	4.61	4.34	5.61	5.71	8.89	12.23	12.93	11.81	10.35	8.42	11.62	7.39	8.97	9.12	8.27	9.05
Repairs	5.75	5.00	6.02	6.04	6.77	7.37	7.51	6.46	6.63	6.45	7.04	6.56	6.63	7.30	8.58	8.82
Hired labor	1.82	1.98	2.25	2.61	2.87	3.06	2.99	2.39	2.37	2.37	2.45	2.53	2.62	2.80	5.68	5.88
Miscellaneous	0	0	0	0	0	0	0.09	0.40	0.34	0.36	0	0	0	0	0.04	0.04
Technical services	0	0	0	0	0	0	0.18	0.18	0.18	0.18	0.05	0.05	0.05	0.05	0.11	0.11
Total, variable cash expenses	38.23	34.88	41.23	44.81	50.58	56.38	62.52	61.38	59.61	61.05	56.68	49.08	50.67	54.13	71.25	69.87
General farm overhead	6.41	6.74	7.17	8.47	9.43	10.30	9.56	8.79	10.43	10.81	6.85	7.87	10.81	12.44	8.95	10.37
Taxes and insurance	4.45	4.72	5.35	5.55	6.24	10.43	10.45	10.57	11.18	11.94	12.85	13.46	13.94	14.39	16.25	16.59
Interest on operating loans	6.76	6.25	5.98	6.70	8.13	9.76	12.44	11.96	13.49	15.13	7.94	6.79	6.48	5.94	4.83	5.23
Interest on real estate	12.88	12.88	12.86	12.86	12.92	12.99	13.97	15.19	19.08	18.69	12.38	11.37	12.54	13.26	7.25	8.12
Total, fixed cash expenses	30.50	30.60	31.36	33.57	36.72	43.48	46.42	46.51	54.18	56.57	40.02	39.49	43.77	46.03	37.28	40.31
Total, cash expenses	68.73	65.48	72.58	78.39	87.30	99.86	108.94	107.89	113.79	117.62	96.70	88.57	94.53	100.16	108.53	110.18
Gross value of production less cash expenses	71.19	106.98	105.87	117.05	114.03	99.85	70.54	52.75	90.67	49.10	69.26	62.07	77.13	101.33	67.10	85.31
Harvest-period price (dollars/bu.)	4.94	6.84	5.91	6.69	6.31	7.72	6.05	5.13	7.95	6.05	4.86	4.57	5.07	7.53	5.53	5.86
Yield (bu./planted acre)	28.30	25.20	30.20	29.20	31.90	25.86	29.68	31.32	25.72	27.54	34.17	32.94	33.83	26.76	31.76	33.36

Table 28B--U.S. soybean production economic costs and returns, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production:																
Soybeans	139.93	172.46	178.46	195.43	201.32	199.71	179.48	160.64	204.46	166.72	165.96	150.64	171.66	201.49	175.63	195.49
Total, gross value of production	139.93	172.46	178.46	195.43	201.32	199.71	179.48	160.64	204.46	166.72	165.96	150.64	171.66	201.49	175.63	195.49
Economic (full ownership) costs:																
Variable cash expenses	38.23	34.88	41.23	44.81	50.58	56.38	62.52	61.38	59.61	61.05	56.68	49.08	50.76	54.13	71.24	69.87
General farm overhead	6.41	6.74	7.17	8.47	9.43	10.30	9.56	8.79	10.43	10.81	6.85	7.87	10.81	12.44	8.95	10.37
Taxes and insurance	4.45	4.72	5.35	5.55	6.24	10.43	10.45	10.57	11.18	11.94	12.85	13.46	13.94	14.39	16.25	16.59
Capital replacement	13.42	15.18	16.28	16.43	18.62	19.37	20.59	23.16	24.21	24.17	29.60	31.48	31.84	34.13	17.94	18.67
Operating capital	1.05	0.89	1.05	1.66	2.35	3.00	3.87	2.88	2.51	2.54	1.72	1.08	1.24	1.51	2.86	2.61
Other nonland capital	3.83	4.06	3.89	3.66	4.08	3.91	3.70	3.70	3.50	4.32	4.99	5.07	5.05	6.36	12.27	13.07
Land	44.57	54.04	57.12	63.37	64.17	64.98	56.86	52.54	63.46	52.71	48.16	43.63	45.56	52.22	46.69	49.87
Unpaid labor	6.84	7.43	8.47	9.83	10.80	11.52	11.24	9.01	8.92	8.94	9.22	9.53	9.86	10.54	16.06	16.96
Subtotal	118.80	127.95	140.55	153.78	166.27	179.89	178.79	172.02	183.81	176.48	170.07	161.20	169.06	185.72	192.28	198.01
Residual returns to management and risk	21.12	44.51	37.90	41.66	35.05	19.82	0.69	-11.38	20.65	-9.76	-4.11	-10.56	2.60	15.77	-16.63	-2.52
Harvest-period price (dollars/bu.)	4.94	6.84	5.91	6.69	6.31	7.72	6.05	5.13	7.95	6.05	4.86	4.57	5.07	7.53	5.53	5.86
Yield (bu./planted acre)	28.30	25.20	30.20	29.20	31.90	25.86	29.68	31.32	25.72	27.54	34.17	32.94	33.83	26.76	31.76	33.36

Note: Survey base changed in 1985 and 1989.



Table 29A--Soybean production cash costs and returns, Delta, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production:																
Soybeans	116.48	146.38	135.55	160.45	181.94	129.08	129.83	132.54	158.68	154.29	121.93	88.26	115.91	184.85	120.27	142.14
Total, gross value of production	116.48	146.38	135.55	160.45	181.94	129.08	129.83	132.54	158.68	154.29	121.93	88.26	115.91	184.85	120.27	142.14
Cash expenses:																
Seed	9.88	6.09	10.82	10.00	10.36	7.87	12.94	8.08	7.67	10.78	11.37	9.31	10.10	10.75	11.11	10.48
Fertilizer, lime, and gypsum	5.67	5.21	6.00	5.98	6.24	8.17	9.70	9.71	5.33	6.25	6.84	6.06	6.04	7.99	6.08	5.45
Chemicals	11.82	12.66	11.42	15.14	15.58	16.74	18.57	19.75	20.82	21.03	8.54	8.30	8.30	8.49	18.47	19.34
Custom operations	1.40	1.57	1.59	1.78	1.91	2.16	4.69	4.76	4.89	5.05	2.28	2.30	2.37	2.35	3.75	3.80
Fuel, lube, and electricity	5.91	5.67	6.56	7.22	11.63	15.61	13.51	12.85	11.01	8.82	12.58	7.40	9.63	7.73	11.27	13.05
Repairs	7.13	6.31	6.80	7.38	8.35	9.05	6.35	6.84	7.20	6.93	7.47	6.72	7.00	7.49	10.34	10.79
Hired labor	2.06	2.23	2.62	2.93	3.22	3.37	2.31	2.54	2.55	2.51	2.45	2.49	2.53	2.53	10.12	11.17
Miscellaneous	0	0	0	0	0	0	0.43	1.00	0.86	0.90	0	0	0	0	0	0
Technical services	0	0	0	0	0	0	0.85	0.44	0.44	0.44	0.05	0.05	0.05	0.05	0.10	0.10
Total, variable cash expenses	43.87	39.55	45.81	50.43	57.29	62.97	69.36	65.98	60.77	62.71	51.58	42.86	46.02	49.38	71.24	74.18
General farm overhead	4.58	4.86	5.18	7.08	7.13	6.21	7.60	6.93	7.10	7.23	7.18	6.94	6.93	10.09	7.52	8.70
Taxes and insurance	4.63	4.85	5.59	5.61	6.33	5.00	4.34	4.33	4.69	5.10	7.67	7.94	8.30	8.54	9.18	9.30
Interest on operating loans	5.40	4.99	4.77	5.35	6.49	7.79	10.42	13.77	8.80	9.22	7.51	5.08	6.09	5.01	4.36	4.67
Interest on real estate	8.01	8.01	8.00	8.00	8.03	8.08	7.70	8.62	5.68	9.14	6.13	5.06	5.07	4.95	4.28	4.69
Total, fixed cash expenses	22.62	22.71	23.54	26.04	27.98	27.08	30.06	33.65	26.27	30.69	28.49	25.02	26.39	28.59	25.34	27.36
Total, cash expenses	66.49	62.26	69.35	76.47	85.28	90.05	99.42	99.63	87.04	93.40	80.07	67.88	72.41	77.97	96.58	101.54
Gross value of production less cash expenses	50.00	84.12	66.20	83.98	96.66	39.03	30.41	32.91	71.64	60.89	41.86	20.38	43.50	106.88	23.69	40.60
Harvest-period price (dollars/bu.)	5.11	7.07	6.11	6.92	6.52	8.16	6.23	5.43	7.86	6.20	4.98	4.88	5.54	7.47	5.83	5.98
Yield (bu./planted acre)	22.80	20.70	22.20	23.20	27.90	15.82	20.84	24.40	20.20	24.88	24.47	18.10	20.93	24.74	20.63	23.77

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Table 29B--Soybean production economic costs and returns, Delta, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production:																
Soybeans	116.48	146.38	135.55	160.45	181.94	129.08	129.83	132.54	158.68	154.29	121.93	88.26	115.91	184.85	120.27	142.14
Total, gross value of production	116.48	146.38	135.55	160.45	181.94	129.08	129.83	132.54	158.68	154.29	121.93	88.26	115.91	184.85	120.27	142.14
Economic (full ownership) costs:																
Variable cash expenses	43.87	39.55	45.81	50.43	57.29	62.97	69.36	65.98	60.77	62.71	51.58	42.86	46.02	49.38	71.24	74.18
General farm overhead	4.58	4.86	5.18	7.08	7.13	6.21	7.60	6.93	7.10	7.23	7.18	6.94	6.93	10.09	7.52	8.70
Taxes and insurance	4.63	4.85	5.59	5.61	6.33	5.00	4.34	4.33	4.69	5.10	7.67	7.94	8.30	8.54	9.18	9.30
Capital replacement	16.16	17.38	19.34	17.94	20.36	21.22	20.13	21.32	22.56	22.72	27.80	27.94	28.66	30.56	20.84	22.17
Operating capital	1.28	1.09	1.34	2.06	2.88	3.60	4.38	3.42	3.39	2.88	1.74	1.08	1.28	1.54	2.86	2.77
Other nonland capital	4.16	4.19	4.16	3.61	4.02	4.06	3.21	3.26	3.11	3.85	4.87	4.73	5.45	5.99	12.84	13.97
Land	22.90	27.14	26.14	31.74	35.03	31.25	29.76	30.22	33.19	33.43	26.03	20.06	23.59	36.10	31.75	29.81
Unpaid labor	7.75	8.41	9.85	11.01	12.13	12.67	8.69	9.57	9.58	9.45	9.20	9.38	9.52	9.53	10.87	12.04
Subtotal	105.34	107.66	117.41	129.48	145.18	146.98	147.47	145.03	143.39	147.37	136.07	120.93	129.11	151.74	167.10	172.94
Residual returns to management and risk	11.15	38.92	18.14	30.96	36.76	-17.90	-17.64	-12.49	15.29	6.92	-14.14	-32.67	-13.20	33.11	-46.83	-30.80
Harvest-period price (dollars/bu.)	5.11	7.07	6.11	6.92	6.52	8.16	6.23	5.43	7.86	6.20	4.98	4.88	5.54	7.47	5.83	5.98
Yield (bu./planted acre)	22.80	20.70	22.20	23.20	27.90	15.82	20.84	24.40	20.20	24.88	24.47	18.10	20.93	24.74	20.63	23.77

Note: Survey base changed in 1985 and 1989.

Table 30A--Soybean production cash costs and returns, North-Central, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production:																
Soybeans	154.91	193.19	208.51	224.20	221.44	252.99	207.79	179.05	239.93	183.28	183.50	170.43	190.44	207.12	199.55	224.59
Total, gross value of production	154.91	193.19	208.51	224.20	221.44	252.99	207.79	179.05	239.93	183.28	183.50	170.43	190.44	207.12	199.55	224.59
Cash expenses:																
Seed	8.09	6.41	8.88	8.38	8.95	8.09	10.26	9.25	8.54	11.60	13.82	11.27	11.58	12.60	16.64	13.52
Fertilizer, lime, and gypsum	3.88	3.57	3.84	4.05	5.38	6.58	6.97	6.08	6.85	7.57	4.48	4.04	4.17	5.11	9.02	8.39
Chemicals	8.68	9.26	8.34	11.28	11.51	12.24	13.30	17.67	18.57	19.05	12.90	12.90	12.60	12.78	20.52	21.51
Custom operations	1.55	1.51	2.04	2.07	2.21	2.49	2.65	2.98	3.05	3.05	4.06	4.11	4.11	4.09	3.81	3.85
Fuel, lube, and electricity	3.94	3.75	5.06	5.06	7.91	10.80	12.56	11.41	10.04	8.15	11.35	7.42	8.85	9.03	7.15	7.82
Repairs	5.22	4.59	5.76	5.68	6.42	7.04	8.05	5.97	6.11	5.96	6.33	6.30	6.31	7.00	8.00	8.25
Hired labor	1.64	1.81	2.03	2.49	2.73	2.96	3.28	2.51	2.26	2.38	2.38	2.50	2.59	2.80	3.82	4.06
Miscellaneous	0	0	0	0	0	0	0	0.31	0.27	0.28	0	0	0	0	0.02	0.03
Technical services	0	0	0	0	0	0	0	0.11	0.11	0.11	0.05	0.05	0.06	0.06	0.12	0.12
Total, variable cash expenses	33.01	30.90	35.95	39.01	45.11	50.20	57.07	56.09	55.80	58.05	55.57	48.59	50.26	53.47	69.10	67.55
General farm overhead	7.39	7.76	8.27	8.93	10.83	12.72	11.00	10.21	12.57	12.89	7.21	8.59	12.17	13.20	9.92	11.43
Taxes and insurance	4.37	4.69	5.26	5.60	6.34	6.49	14.21	14.32	14.81	15.60	15.19	15.64	15.99	16.59	19.08	19.46
Interest on operating loans	7.75	7.16	6.85	7.68	9.31	11.18	13.16	11.95	16.42	18.18	8.88	7.46	6.96	6.42	5.60	6.02
Interest on real estate	16.00	15.99	15.97	15.96	16.04	16.13	17.24	17.89	24.80	24.05	14.21	13.50	14.82	15.35	8.64	9.58
Total, fixed cash expenses	35.49	35.61	36.34	38.16	42.52	54.12	55.61	54.37	68.60	70.72	45.49	45.19	49.94	51.56	43.24	46.49
Total, cash expenses	68.50	66.51	72.29	77.17	87.63	104.32	112.68	110.46	124.40	128.77	101.06	93.78	100.20	105.03	112.34	114.04
Gross value of production less cash expenses	86.41	126.69	136.22	147.03	133.81	148.67	95.11	68.59	115.53	54.51	82.44	76.66	90.24	102.09	87.21	110.55
Harvest-period price (dollars/bu.)	4.91	6.80	5.87	6.65	6.27	7.62	6.04	5.05	7.99	6.04	4.83	4.52	5.00	7.54	5.52	5.87
Yield (bu./planted acre)	31.52	28.40	35.50	33.70	35.30	33.19	34.43	35.44	30.01	30.33	38.01	37.74	38.08	27.46	36.15	38.26

Table 30B--Soybean production economic costs and returns, North-Central, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production:																
Soybeans	154.91	193.19	208.51	224.20	221.44	252.99	207.79	179.05	239.93	183.28	183.50	170.43	190.44	207.12	199.55	224.59
Total, gross value of production	154.91	193.19	208.51	224.20	221.44	252.99	207.79	179.05	239.93	183.28	183.50	170.43	190.44	207.12	199.55	224.59
Economic (full ownership) costs:																
Variable cash expenses	33.01	30.90	35.95	39.01	45.11	50.20	57.07	56.09	55.80	58.05	55.57	48.59	50.26	53.47	69.10	67.55
General farm overhead	7.39	7.76	8.27	8.93	10.83	12.72	11.00	10.21	12.57	12.89	7.21	8.59	12.17	13.20	9.92	11.43
Taxes and insurance	4.37	4.69	5.26	5.60	6.34	6.49	14.21	14.32	14.81	15.60	15.19	15.64	15.99	16.59	19.08	19.46
Capital replacement	12.62	14.67	15.32	16.43	18.83	19.53	21.74	25.49	26.81	26.33	31.01	33.45	33.40	35.93	16.61	17.38
Operating capital	0.91	0.78	0.87	1.39	2.00	2.54	3.48	2.47	1.97	2.29	1.63	1.03	1.19	1.44	2.78	2.52
Other nonland capital	3.74	4.07	3.79	3.80	4.28	4.03	4.08	4.09	3.85	4.72	5.18	5.32	5.22	6.61	11.91	12.73
Land	57.07	70.61	77.36	87.55	87.33	90.92	75.50	68.07	83.77	67.04	57.62	51.81	53.20	58.69	54.78	58.78
Unpaid labor	6.19	6.83	7.62	9.35	10.29	11.13	12.34	8.69	8.48	8.57	8.96	9.41	9.73	10.53	16.92	17.85
Subtotal	125.28	140.30	154.44	172.05	185.01	205.16	199.42	189.43	208.06	195.49	182.37	173.84	181.16	196.46	201.10	207.70
Residual returns to management and risk	29.63	52.89	54.08	52.14	36.43	47.83	8.37	-10.38	31.87	-12.21	1.13	-3.41	9.28	10.66	-1.55	16.89
Harvest-period price (dollars/bu.)	4.91	6.80	5.87	6.65	6.27	7.62	6.04	5.05	7.99	6.04	4.83	4.52	5.00	7.54	5.52	5.87
Yield (bu./planted acre)	31.52	28.40	35.50	33.70	35.30	33.19	34.43	35.44	30.01	30.33	38.01	37.74	38.08	27.46	36.15	38.26

Note: Survey base changed in 1985 and 1989.



Table 31A--Soybean production cash costs and returns,  
Northern Plains, 1989-90

Item	1989	1990
Dollars per planted acre		
Gross value of production:		
Soybeans	145.94	161.31
Total, gross value of production	145.94	161.31
Cash expenses:		
Seed	13.85	11.54
Fertilizer, lime, and gypsum	3.04	2.60
Chemicals	15.65	16.47
Custom operations	2.19	2.26
Fuel, lube, and electricity	10.42	11.31
Repairs	9.30	9.52
Hired labor	5.02	5.06
Miscellaneous	.20	.19
Technical services	.20	.21
Total, variable cash expenses	59.87	59.16
General farm overhead	8.22	9.40
Taxes and insurance	14.20	14.15
Interest on operating loans	4.72	5.03
Interest on real estate	6.97	7.62
Total, fixed cash expenses	34.11	36.20
Total, cash expenses	93.98	95.36
Gross value of production less cash expenses	51.96	65.95
Harvest-period price (dollars/bu.)	5.28	5.67
Yield (bu./planted acre)	27.64	28.45

Table 31B--Soybean production economic costs and returns,  
Northern Plains, 1989-90

Item	1989	1990
Dollars per planted acre		
Gross value of production:		
Soybeans	145.94	161.31
Total, gross value of production	145.94	161.31
Economic (full ownership) costs:		
Variable cash expenses	59.87	59.16
General farm overhead	8.22	9.40
Taxes and insurance	14.20	14.15
Capital replacement	23.49	24.05
Operating capital	2.41	2.21
Other nonland capital	14.82	15.59
Land	44.67	47.88
Unpaid labor	19.24	19.48
Subtotal	186.92	191.92
Residual returns to management and risk	-40.98	-30.61
Harvest-period price (dollars/bu.)	5.28	5.67
Yield (bu./planted acre)	27.64	28.45

Table 32A--Soybean production cash costs and returns, Southeast, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production:																
Soybeans	116.57	149.53	129.71	151.68	166.75	121.52	139.61	136.20	137.72	141.46	126.71	107.55	116.58	186.06	140.45	130.78
Total, gross value of production	116.57	149.53	129.71	151.68	166.75	121.52	139.61	136.20	137.72	141.46	126.71	107.55	116.58	186.06	140.45	130.78
Cash expenses:																
Seed	7.81	6.11	10.24	9.64	9.00	7.44	10.43	7.54	7.25	9.96	10.11	9.90	9.71	9.68	11.70	9.69
Fertilizer, lime, and gypsum	12.88	11.99	15.26	16.62	16.74	20.14	20.39	21.80	20.25	18.97	14.26	12.66	12.42	15.19	25.61	23.12
Chemicals	14.55	12.44	11.44	15.45	15.83	16.95	18.75	21.00	22.11	22.86	14.04	14.04	13.53	13.94	18.37	19.50
Custom operations	3.66	3.64	3.97	4.38	4.71	4.92	5.46	5.67	5.65	5.82	5.79	5.65	5.75	5.78	2.20	2.25
Fuel, lube, and electricity	5.45	5.53	6.00	6.52	9.59	13.48	13.23	12.60	10.96	8.98	11.87	7.21	8.85	8.85	9.57	10.22
Repairs	6.30	5.69	5.74	6.16	6.64	7.12	6.97	7.38	7.47	7.34	9.15	7.98	8.47	9.12	9.40	9.54
Mined labor	2.26	2.31	2.68	2.75	3.00	3.16	2.69	2.57	2.62	2.66	2.81	2.79	3.01	3.22	11.07	11.24
Miscellaneous	0	0	0	0	0	0	0.07	0.24	0.21	0.22	0	0	0	0	0	0
Technical services	0	0	0	0	0	0	0.17	0.25	0.24	0.24	0	0	0	0	0.02	0.02
Total, variable cash expenses	53.10	47.72	55.33	61.52	65.51	73.21	78.36	79.05	76.76	77.05	68.39	60.23	61.47	65.78	87.94	85.58
General farm overhead	4.20	4.46	4.75	7.02	6.76	7.43	6.41	6.14	6.05	6.23	4.54	4.58	6.53	10.51	6.30	7.39
Taxes and insurance	4.55	4.73	5.43	5.44	6.02	5.34	4.91	4.89	5.10	5.40	6.74	6.92	7.25	7.41	10.33	10.25
Interest on operating loans	5.23	4.84	4.63	5.18	6.29	7.55	10.50	10.54	8.81	8.48	3.53	4.80	3.55	3.95	1.99	2.10
Interest on real estate	9.74	9.74	9.72	9.72	9.76	9.82	10.31	12.72	13.64	10.90	10.22	6.24	6.91	10.65	3.48	4.16
Total, fixed cash expenses	23.72	23.76	24.53	27.36	28.83	30.14	32.13	34.29	31.60	31.01	25.03	22.54	24.24	32.52	22.10	23.89
Total, cash expenses	76.82	71.49	79.86	88.88	94.34	103.35	110.49	113.34	108.36	108.06	93.42	82.77	85.98	98.30	110.04	109.47
Total, cash expenses	39.75	78.04	49.85	62.79	72.41	18.17	29.12	22.86	29.36	33.40	33.29	24.78	30.60	87.76	30.41	21.31
Gross value of production less cash expenses																
Harvest-period price (dollars/bu.)	5.02	6.95	6.01	6.80	6.41	8.02	6.11	5.32	7.79	6.07	4.93	4.86	5.36	7.50	5.67	5.87
Yield (bu./planted acre)	23.20	21.50	21.60	22.30	26.00	15.14	22.84	25.61	17.67	23.29	25.70	22.13	21.73	24.79	24.77	22.28

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Table 32B--Soybean production economic costs and returns, Southeast, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production:																
Soybeans	116.57	149.53	129.71	151.68	166.75	121.52	139.61	136.20	137.72	141.46	126.71	107.55	116.58	186.06	140.45	130.78
Total, gross value of production	116.57	149.53	129.71	151.68	166.75	121.52	139.61	136.20	137.72	141.46	126.71	107.55	116.58	186.06	140.45	130.78
Economic (full ownership) costs:																
Variable cash expenses	53.10	47.72	55.33	61.52	65.51	73.21	78.36	79.05	76.76	77.05	68.39	60.23	61.74	65.78	87.94	85.58
General farm overhead	4.20	4.46	4.75	7.02	6.76	7.43	6.41	6.14	6.05	6.23	4.54	4.58	6.53	10.51	6.30	7.39
Taxes and insurance	4.55	4.73	5.43	5.44	6.02	5.34	4.91	4.89	5.10	5.40	6.74	6.92	7.25	7.41	10.33	10.25
Capital replacement	13.72	15.06	16.72	15.88	17.57	18.04	18.08	19.55	20.43	20.20	24.36	23.81	25.05	26.53	17.92	18.17
Operating capital	1.42	1.14	1.45	2.27	3.13	4.09	4.99	3.99	3.11	3.48	2.18	1.43	1.60	1.95	3.54	3.20
Other nonland capital	3.70	3.80	3.77	3.34	3.59	3.58	3.04	3.02	3.02	3.48	4.20	3.96	4.11	5.09	11.72	12.10
Land	20.87	24.63	23.21	28.43	31.31	29.08	30.91	28.24	27.03	27.79	25.04	23.00	22.05	30.02	23.81	24.21
Unpaid labor	8.51	8.71	10.08	10.35	11.28	11.91	10.13	9.66	9.88	9.04	10.56	10.51	11.33	12.10	13.60	14.53
Subtotal	110.07	110.25	120.74	134.26	144.97	152.68	156.82	154.54	151.16	153.19	146.01	134.44	139.66	159.39	175.16	175.22
Residual returns to management and risk	6.50	39.28	8.96	17.42	21.78	-31.16	-17.21	-18.34	-13.44	-11.73	-19.30	-26.89	-23.08	26.67	-34.71	-44.44
Harvest-period price (dollars/bu.)	5.02	6.95	6.01	6.80	6.41	8.02	6.11	5.32	7.79	6.07	4.93	4.86	5.36	7.50	5.67	5.87
Yield (bu./planted acre)	23.20	21.50	21.60	22.30	26.00	15.14	22.84	25.61	17.67	23.29	25.70	22.13	21.73	24.79	24.77	22.28



Figure 19

## Peanut Production Regions



Producers in the States shaded were surveyed about production practices and costs of production. Production regions are defined for each crop based on common cultural practices.

Figure 20

## Peanut production costs per planted acre, 1990

Dollars

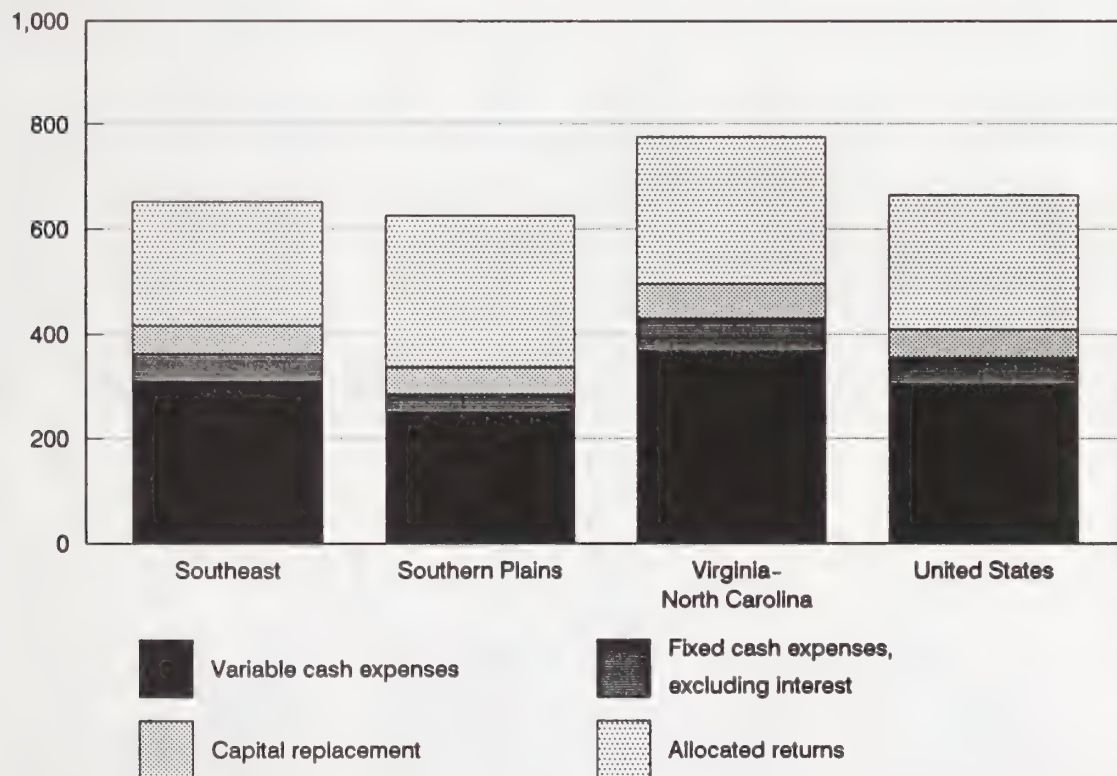


Table 33A--U.S. peanut production cash costs and returns, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production:																
Peanuts	495.95	488.49	509.98	548.45	534.95	366.31	710.18	656.42	562.79	707.78	621.19	680.57	644.81	681.98	668.22	685.63
Peanut hay	13.34	14.52	13.35	13.01	15.52	10.14	11.01	10.99	17.22	18.68	16.81	9.21	10.66	13.68	11.31	11.26
Total, gross value of production	509.28	503.01	523.33	561.46	550.47	376.45	721.19	667.41	580.01	726.46	638.00	689.78	655.47	695.66	679.53	694.89
Cash expenses:																
Seed	36.58	39.56	53.34	54.50	57.95	66.69	71.80	59.48	62.41	74.09	59.60	63.58	79.70	73.44	70.54	71.98
Fertilizer	17.01	16.82	18.92	18.80	19.96	22.64	21.77	20.63	19.20	20.50	18.68	16.50	16.28	20.02	20.53	18.61
Lime and gypsum	12.36	13.48	16.64	18.03	18.41	20.28	15.48	14.06	14.35	15.35	14.98	10.98	10.21	10.57	10.62	10.16
Chemicals	64.09	55.80	59.37	64.10	65.29	69.44	78.75	82.82	89.00	92.78	91.57	74.01	71.45	72.91	76.21	80.14
Custom operations	3.50	3.63	3.92	4.48	4.81	4.68	6.90	7.14	7.10	7.45	6.69	8.56	8.53	8.70	9.22	9.54
Fuel, lube, and electricity	17.84	18.21	19.52	22.01	31.14	40.74	35.40	33.96	30.86	27.09	30.65	27.85	34.08	33.72	36.56	38.64
Repairs	19.10	17.99	17.96	19.97	21.64	23.10	17.48	18.72	19.84	17.79	17.28	18.63	18.82	19.82	20.77	21.17
Hired labor	8.91	9.63	14.87	15.66	17.20	17.68	14.57	14.77	14.87	14.65	15.73	28.81	31.28	32.62	31.88	32.96
Drying	23.72	24.21	25.96	29.27	33.63	22.02	43.76	39.74	33.04	39.88	39.05	24.42	24.12	24.85	25.44	21.37
Miscellaneous	0	0	0	0	0	0	0.09	0.80	0.20	0.20	0.20	0	0	0	0	0
Technical services	0	0	0	0	0	0	0.19	0.80	0.84	0.87	0.86	0.77	0.77	0.77	0.76	0.76
Total, variable cash expenses	203.11	199.33	230.51	246.82	270.03	287.27	306.19	292.32	291.71	310.65	295.10	274.11	295.24	297.42	302.54	305.33
General farm overhead	19.42	20.29	21.60	23.13	26.18	20.49	30.80	27.36	27.92	28.87	24.31	32.81	31.67	33.71	32.51	37.63
Taxes and insurance	5.40	5.53	7.82	8.04	8.59	8.49	9.39	9.71	10.54	10.69	10.33	12.59	13.17	13.37	13.72	13.48
Interest on operating loans	16.95	15.67	14.99	16.79	20.37	24.46	57.16	50.91	40.27	34.69	24.68	29.01	20.33	17.95	18.96	20.39
Interest on real estate	20.11	20.11	20.07	20.07	20.16	20.28	50.26	45.95	57.53	39.22	41.31	38.56	30.56	28.57	28.81	32.09
Total, fixed cash expenses	61.88	61.60	64.49	68.04	75.31	73.72	147.61	133.93	136.26	113.47	100.63	112.97	95.73	93.60	94.00	105.59
Total, cash expenses	264.99	260.94	295.00	314.85	345.34	360.99	453.80	426.25	427.96	424.12	395.73	387.08	390.97	391.02	396.54	408.92
Gross value of production less cash expenses	244.30	242.07	228.33	246.61	205.13	15.46	267.39	241.16	152.05	302.34	242.27	302.70	264.50	304.64	282.99	285.97
Harvest-period price (dollars/lb.)	0.20	0.20	0.21	0.21	0.21	0.24	0.27	0.25	0.24	0.25	0.22	0.29	0.28	0.28	0.28	0.35
Yield (lbs./planted acre)	2,533.00	2,445.00	2,431.00	2,602.00	2,587.00	1,526.43	2,647.61	2,642.50	2,350.15	2,827.78	2,771.74	2,354.78	2,305.30	2,427.32	2,432.40	1,954.70

Table 33B--U.S. peanut production economic costs and returns, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production:																
Peanuts	495.95	488.49	509.98	548.45	534.95	366.31	710.18	656.42	562.79	707.78	621.19	680.57	644.81	681.98	668.22	685.63
Peanut hay	13.34	14.52	13.35	13.01	15.52	10.14	11.01	10.99	17.22	18.68	16.81	9.21	10.66	13.68	11.31	11.26
Total, gross value of production	509.28	503.01	523.33	561.46	550.47	376.45	721.19	667.41	580.01	726.46	638.00	689.78	655.47	695.66	679.53	694.89
Economic (full ownership) costs:																
Variable cash expenses	203.11	199.33	230.51	246.82	270.03	287.27	306.19	292.32	291.71	310.65	295.10	274.11	295.24	297.42	302.54	305.33
General farm overhead	19.42	20.29	21.60	23.13	26.18	20.49	30.80	27.36	27.92	28.87	24.31	32.81	31.67	33.71	32.51	37.63
Taxes and insurance	5.40	5.53	7.82	8.04	8.59	8.49	9.39	9.71	10.54	10.69	10.33	12.59	13.17	13.37	13.72	13.48
Capital replacement	18.85	21.70	33.74	34.72	36.08	39.02	43.63	46.88	49.85	49.52	43.05	48.42	48.89	51.51	53.82	54.91
Operating capital	3.49	2.87	4.71	6.58	9.18	12.14	14.81	11.66	9.56	11.37	8.37	5.95	7.16	8.23	9.64	9.23
Other nonland capital	5.50	5.93	8.23	7.92	8.08	7.72	8.16	8.36	8.02	9.62	8.06	9.78	9.71	11.91	15.20	16.82
Land	92.16	91.89	118.81	124.33	135.02	123.68	105.26	92.90	84.63	91.78	84.07	65.07	60.63	63.79	64.90	68.90
Peanut quota	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	112.96	111.70	113.79	113.90	116.79
Unpaid labor	9.65	10.44	16.11	16.96	18.63	19.15	15.79	16.01	16.10	15.87	17.05	35.96	38.13	39.50	42.07	43.93
Subtotal	357.59	357.98	441.54	468.49	511.79	517.96	534.03	505.20	498.33	528.37	490.33	597.65	616.30	633.23	648.30	667.02
Residual returns to management and risk	151.70	145.03	81.79	92.97	38.68	-141.51	187.16	162.21	81.68	198.09	147.67	92.13	39.17	62.43	31.23	27.87
Harvest-period price (dollars/lb.)	0.20	0.20	0.21	0.21	0.21	0.24	0.27	0.25	0.24	0.25	0.22	0.29	0.28	0.28	0.28	0.35
Yield (lbs./planted acre)	2,533.00	2,445.00	2,431.00	2,602.00	2,587.00	1,526.43	2,647.61	2,642.50	2,350.15	2,827.78	2,771.74	2,354.78	2,305.30	2,427.32	2,432.40	1,954.70

N/A = Not available.

Note: Survey base changed in 1986.



Table 34A--Peanut production cash costs and returns, Southeast, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production:																
Peanuts	573.21	532.67	565.94	625.35	612.90	393.26	757.29	755.91	632.08	782.24	662.70	673.03	675.26	717.16	682.62	589.00
Peanut hay	16.09	16.53	15.47	15.49	15.48	10.01	10.87	11.41	17.91	17.82	17.08	9.35	10.57	14.36	11.68	11.48
Total, gross value of production	589.30	549.20	581.41	640.84	628.38	393.27	768.16	767.32	649.99	800.06	679.78	682.38	685.83	731.52	694.30	600.48
Cash expenses:																
Seed	39.11	45.30	63.06	64.19	66.02	76.21	78.97	62.59	65.37	77.29	61.54	67.08	86.27	74.97	74.25	76.23
Fertilizer	18.35	20.11	24.59	24.33	25.50	28.78	25.55	24.39	22.04	23.17	21.10	18.21	18.31	22.65	22.65	20.75
Lime and gypsum	15.81	18.45	20.63	22.84	22.91	25.69	17.93	16.91	17.04	18.64	18.47	12.19	11.23	11.74	11.83	11.15
Chemicals	68.44	71.44	73.09	80.18	81.85	87.08	94.39	101.26	106.60	108.82	108.82	80.13	78.23	79.50	83.23	87.57
Custom operations	3.90	4.19	4.19	4.92	5.27	5.50	5.97	6.19	6.21	6.36	5.45	8.91	8.96	9.20	9.68	10.02
Fuel, lube, and electricity	16.04	15.45	16.86	19.53	29.07	39.03	34.44	31.40	27.66	22.50	25.29	25.41	33.25	32.16	35.70	35.94
Repairs	19.53	17.35	21.65	20.14	21.66	23.04	16.41	17.56	18.47	15.95	15.14	17.69	17.87	18.93	19.85	19.97
Hired labor	9.29	9.40	14.82	15.44	16.66	17.05	14.04	13.59	13.67	13.33	13.87	28.03	29.35	31.25	29.53	31.05
Drying	25.07	24.14	26.35	30.52	36.97	22.62	44.81	42.51	35.30	41.93	40.50	23.27	22.93	24.32	24.62	16.94
Miscellaneous	0	0	0	0	0	0	0.11	0.27	0.27	0.27	0.27	0	0	0	0	0
Technical services	0	0	0	0	0	0	0.25	1.15	1.17	1.17	1.17	0.77	0.77	0.76	0.77	0.76
Total, variable cash expenses	215.54	225.45	261.22	282.09	305.91	325.00	332.86	317.82	313.79	329.42	311.62	281.69	307.17	305.48	312.11	310.38
General farm overhead	23.29	24.34	25.91	27.74	31.40	18.17	26.50	27.14	27.67	28.14	24.20	35.07	34.09	34.17	34.88	40.37
Taxes and insurance	5.23	5.61	8.09	7.91	8.57	8.42	9.00	9.38	10.24	10.17	10.16	12.24	12.75	13.01	13.52	13.15
Interest on operating loans	18.72	17.31	16.56	18.55	22.50	27.02	62.24	61.20	49.08	30.19	26.65	28.28	19.74	17.84	18.84	20.26
Interest on real estate	16.07	16.07	16.05	16.04	16.12	16.21	53.84	43.05	63.31	35.37	43.91	46.45	37.52	34.81	35.10	39.09
Total, fixed cash expenses	63.32	63.33	66.60	70.25	78.60	69.82	151.58	140.77	150.30	103.87	104.92	122.04	104.10	101.83	102.34	112.87
Total, cash expenses	278.86	288.79	327.83	352.34	384.51	394.82	484.44	458.59	464.09	433.29	416.54	403.73	411.27	407.31	414.45	423.25
Gross value of production less cash expenses	310.44	260.41	253.58	288.50	243.87	-1.55	283.72	308.73	185.90	366.77	263.24	278.65	274.56	324.21	279.85	177.23
Harvest-period price (dollars/lb.)	0.19	0.19	0.20	0.20	0.20	0.22	0.27	0.24	0.23	0.24	0.21	0.28	0.28	0.28	0.27	0.34
Yield (lbs./planted acre)	3,057.00	2,784.00	2,817.00	3,098.00	3,095.00	1,759.83	2,846.25	3,110.11	2,702.82	3,219.14	3,132.36	2,384.96	2,382.34	2,556.30	2,561.00	1,717.20

Table 34B--Peanut production economic costs and returns, Southeast, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production:																
Peanuts	573.21	532.67	565.94	625.35	612.90	393.26	757.29	755.91	632.08	782.24	662.70	673.03	675.26	717.16	682.62	589.00
Peanut hay	16.09	16.53	15.47	15.49	15.48	10.01	10.87	11.41	17.91	17.82	17.08	9.35	10.57	14.36	11.68	11.48
Total, gross value of production	589.30	549.20	581.41	640.84	628.38	393.27	768.16	767.32	649.99	800.06	679.78	682.38	685.83	731.52	694.30	600.48
Economic (full ownership) costs:																
Variable cash expenses	215.54	225.45	261.22	282.09	305.91	325.00	332.86	317.82	313.79	329.42	311.62	281.69	307.17	305.48	312.11	310.38
General farm overhead	23.29	24.34	25.91	27.74	31.40	18.17	26.50	27.14	27.67	28.14	24.20	35.07	34.09	34.17	34.88	40.37
Taxes and insurance	5.23	5.61	8.09	7.91	8.57	8.42	9.00	9.38	10.24	10.17	10.16	12.24	12.75	13.01	13.52	13.15
Capital replacement	18.61	21.04	35.86	33.89	35.40	36.75	42.05	45.61	48.16	46.64	41.69	47.36	47.89	50.70	52.83	53.35
Operating capital	3.77	3.38	5.94	8.20	11.21	14.87	17.12	13.37	10.80	12.66	9.34	6.41	7.82	8.84	10.41	10.87
Other nonland capital	5.38	5.69	8.66	7.65	7.85	7.40	7.71	7.97	7.60	8.90	7.65	9.30	9.24	11.41	14.52	15.02
Land	104.71	98.60	142.92	154.79	176.75	170.91	99.00	92.27	89.73	87.71	78.84	50.42	47.52	52.98	49.98	44.14
Peanut quota	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Unpaid labor	10.07	10.18	16.06	16.73	18.05	18.47	15.20	14.73	14.80	14.45	15.03	32.41	34.01	36.07	38.24	40.67
Subtotal	386.60	394.29	504.67	539.00	595.15	599.99	549.45	528.29	522.80	538.09	498.53	595.62	620.49	637.12	649.05	653.64
Residual returns to management and risk	202.70	154.91	76.74	101.84	33.23	-206.72	218.71	239.03	127.19	261.97	181.25	86.76	65.34	94.40	45.25	-53.16
Harvest-period price (dollars/lb.)	0.19	0.19	0.20	0.20	0.20	0.22	0.27	0.24	0.23	0.24	0.21	0.28	0.28	0.28	0.27	0.34
Yield (lbs./planted acre)	3,057.00	2,784.00	2,817.00	3,098.00	3,095.00	1,759.83	2,846.25	3,110.11	2,702.82	3,219.14	3,132.36	2,384.96	2,382.34	2,556.30	2,561.00	1,717.20

N/A = Not available.

Note: Survey base changed in 1986.



Table 35A--Peanut production cash costs and returns, Southern Plains, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production:																
Peanuts	344.77	354.63	351.64	342.33	408.57	336.09	444.76	378.30	417.50	456.70	464.12	545.46	502.10	501.46	564.45	784.38
Peanut hay	17.08	19.42	16.96	14.96	18.20	13.31	13.88	11.99	17.98	24.89	18.71	8.45	10.73	10.88	9.75	10.48
Total, gross value of production	361.85	374.04	368.60	357.29	426.77	349.40	458.64	390.29	435.48	481.59	482.83	553.91	512.83	512.34	574.20	794.86
Cash expenses:																
Seed	30.82	29.51	38.94	39.15	41.33	49.25	61.46	42.57	44.50	52.81	42.87	45.10	57.43	49.64	48.52	50.02
Fertilizer	17.60	14.25	12.58	12.53	13.95	16.39	21.56	20.71	19.61	21.22	20.02	16.33	15.44	18.13	19.76	17.19
Lime and gypsum	0.60	0.54	0.07	0.08	0.08	0.11	0.55	0.62	0.60	0.50	0.50	0.61	0.63	0.53	0.58	0.63
Chemicals	45.92	23.92	27.56	29.33	30.28	29.89	31.43	33.92	36.51	39.25	38.77	43.07	41.81	42.34	44.38	46.79
Custom operations	3.93	4.26	4.37	4.52	4.89	4.02	6.96	4.05	7.44	8.67	7.63	7.61	7.87	7.76	8.26	8.75
Fuel, lube, and electricity	29.09	31.01	31.58	32.23	42.03	52.68	41.34	42.53	42.27	45.27	48.61	31.55	34.08	34.73	37.71	39.52
Repairs	23.47	23.08	21.89	22.03	24.23	25.59	22.19	22.95	25.18	24.79	24.50	20.91	21.28	22.15	23.69	24.09
Hired labor	7.27	8.01	16.18	17.64	19.35	20.06	16.32	17.32	17.67	18.22	20.12	25.04	30.07	30.07	32.05	32.09
Drying	11.90	12.69	12.93	13.19	18.49	12.11	18.39	16.87	18.38	18.06	19.27	26.17	27.88	26.73	29.83	30.46
Miscellaneous	0	0	0	0	0	0	0.03	0.01	0.01	0.01	0.01	0	0	0	0	0
Technical services	0	0	0	0	0	0	0.01	0.56	0.58	0.64	0.64	0.61	0.62	0.63	0.63	0.62
Total, variable cash expenses	170.61	147.26	166.09	170.70	194.63	210.10	220.24	205.11	212.75	229.44	222.94	217.00	237.11	232.71	245.41	250.16
General farm overhead	13.84	14.46	15.39	16.48	18.65	21.31	28.55	20.71	21.57	24.06	23.95	21.01	20.33	21.50	20.73	23.99
Taxes and insurance	6.03	5.68	7.76	8.58	8.71	7.86	8.53	8.50	9.43	10.23	11.00	10.41	11.33	11.31	11.46	11.23
Interest on operating loans	12.62	11.67	11.16	12.50	15.17	18.21	40.60	28.32	27.89	29.97	26.51	33.65	23.45	20.66	21.82	23.47
Interest on real estate	18.66	18.66	18.63	18.63	18.71	18.82	27.97	21.34	23.80	21.41	18.83	23.08	18.02	16.54	16.68	18.58
Total, fixed cash expenses	51.14	50.46	52.94	56.19	61.24	66.20	105.65	78.87	82.69	85.67	80.29	88.15	73.13	70.01	70.69	77.27
Total, cash expenses	221.75	197.73	219.03	226.89	255.87	276.30	325.89	283.98	295.44	315.11	303.23	305.15	310.24	302.72	316.10	327.43
Gross value of production less cash expenses	140.10	176.31	149.57	130.40	170.90	73.10	132.75	106.31	140.04	166.48	179.60	248.76	202.59	209.62	258.10	467.43
Harvest-period price (dollars/lb.)	0.21	0.22	0.23	0.23	0.22	0.32	0.26	0.25	0.25	0.27	0.26	0.31	0.27	0.28	0.28	0.40
Yield (lbs./planted acre)	1,622.00	1,635.00	1,544.00	1,496.00	1,820.00	1,049.47	1,718.39	1,523.50	1,668.16	1,704.12	1,791.96	1,752.30	1,874.28	1,790.92	1,994.50	1,950.60

Table 35B--Peanut production economic costs and returns, Southern Plains, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production:																
Peanuts	344.77	354.63	351.64	342.33	408.57	336.09	444.76	378.30	417.50	456.70	464.12	545.46	502.10	501.46	564.45	784.38
Peanut hay	17.08	19.42	16.96	14.96	18.20	13.31	13.88	11.99	17.98	24.89	18.71	8.45	10.73	10.88	9.75	10.48
Total, gross value of production	361.85	374.04	368.60	357.29	426.77	349.40	458.64	390.29	435.48	481.59	482.83	553.91	512.83	512.34	574.20	794.86
Economic (full ownership) costs:																
Variable cash expenses	170.61	147.26	166.09	170.70	194.63	210.10	220.24	205.11	212.75	229.44	222.94	217.00	237.11	232.71	245.41	250.16
General farm overhead	13.84	14.46	15.39	16.48	18.65	21.31	28.55	20.71	21.57	24.06	23.95	21.01	20.33	21.50	20.73	23.99
Taxes and insurance	6.03	5.68	7.76	8.58	8.71	7.86	8.53	8.50	9.43	10.23	11.00	10.41	11.33	11.31	11.46	11.23
Capital replacement	20.70	25.37	33.85	39.44	39.78	46.17	44.77	46.83	51.35	54.40	56.18	45.35	46.30	48.02	51.26	52.46
Operating capital	2.87	1.92	2.67	3.93	5.51	7.36	9.36	7.22	5.88	7.13	5.39	4.31	5.22	5.86	7.05	6.64
Other nonland capital	5.95	8.83	8.13	8.85	8.77	8.53	8.39	8.35	8.28	10.58	10.22	9.73	9.39	11.33	14.86	16.40
Land	58.10	58.72	61.69	49.30	62.92	56.41	72.18	64.74	73.18	80.25	80.73	87.48	82.25	81.67	91.68	120.57
Peanut quota	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Unpaid labor	7.88	8.67	17.52	19.12	20.96	21.74	17.69	18.76	19.15	19.74	21.79	46.87	48.57	48.69	50.65	50.65
Subtotal	285.98	268.91	313.11	316.40	359.93	379.48	409.71	390.22	401.59	435.83	432.20	535.45	553.00	554.40	586.55	627.92
Residual returns to management and risk	75.87	105.13	55.49	40.89	66.84	-30.08	48.93	10.07	33.89	45.76	50.63	18.46	-40.17	-42.11	-12.35	166.94
Harvest-period price (dollars/lb.)	0.21	0.22	0.23	0.23	0.22	0.32	0.26	0.25	0.25	0.27	0.26	0.31	0.27	0.28	0.28	0.40
Yield (lbs./planted acre)	1,622.00	1,635.00	1,544.00	1,496.00	1,820.00	1,049.47	1,718.39	1,523.50	1,668.16	1,704.12	1,791.96	1,752.30	1,874.28	1,790.92	1,994.50	1,950.60

N/A = Not available.

Notes: Survey base changed in 1986.



Table 36A--Peanut production cash costs and returns, Virginia and North Carolina, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production:																
Peanuts	490.51	564.19	582.23	627.61	497.35	362.54	887.49	741.40	525.40	754.40	686.76	900.76	734.81	796.01	761.64	941.55
Peanut hay	5.11	6.50	5.91	5.77	7.00	5.71	7.99	8.49	13.93	13.89	13.32	9.66	10.95	14.90	12.07	11.84
Total, gross value of production	495.62	570.69	588.14	633.39	504.35	368.25	895.48	749.89	539.33	768.29	700.08	910.42	745.76	810.91	773.71	953.39
Cash expenses:																
Seed	38.30	38.68	47.44	50.24	61.04	65.29	62.41	73.02	76.19	89.64	75.22	74.12	86.56	101.35	87.64	87.03
Fertilizer	12.19	11.23	12.46	13.39	13.39	14.18	10.47	9.87	9.25	9.62	8.50	9.40	9.49	11.90	11.74	11.42
Lime and gypsum	20.82	19.46	32.19	32.19	34.81	35.00	26.08	23.77	23.56	22.27	22.19	20.14	20.27	20.17	20.40	20.43
Chemicals	80.05	60.57	68.99	71.70	73.11	77.79	88.29	95.12	100.01	102.20	102.11	90.59	88.35	89.59	93.97	98.75
Custom operations	2.09	2.53	3.09	3.09	3.51	3.26	3.64	29.87	9.63	9.95	8.56	8.34	7.78	8.01	9.09	8.68
Fuel, lube, and electricity	9.41	11.22	11.90	13.44	19.62	27.69	31.16	26.41	26.41	20.69	25.07	33.22	37.32	38.72	38.42	48.69
Repairs	13.48	14.83	14.64	16.31	17.39	19.54	15.04	16.45	17.36	15.63	15.07	19.52	18.98	20.15	20.27	21.96
Hired labor	10.37	12.93	12.96	13.16	15.31	15.92	14.09	14.76	15.12	14.95	16.36	37.38	40.62	41.94	41.64	42.61
Drying	35.66	42.51	45.07	50.92	48.26	35.27	71.27	62.10	44.87	60.36	60.49	26.95	23.28	24.32	22.34	26.82
Miscellaneous	0	0	0	0	0	0	0.12	0.22	0.22	0.22	0.13	0	0	0	0	0
Technical services	0	0	0	0	0	0	0.22	0.13	0.13	0.13	0.22	1.00	1.01	1.01	1.01	1.01
Total, variable cash expenses	222.37	213.95	246.82	263.51	286.24	293.94	328.79	335.21	322.75	345.67	334.14	320.66	333.66	357.16	346.34	367.40
General farm overhead	15.44	16.13	17.17	18.38	20.81	10.58	46.68	36.78	37.06	37.76	25.20	39.65	38.78	41.23	39.76	46.02
Taxes and insurance	4.99	5.07	7.08	7.62	8.47	9.65	11.61	12.24	12.98	13.23	10.02	17.17	17.54	17.83	17.92	18.31
Interest on operating loans	7.44	6.88	6.58	7.37	8.94	10.74	61.68	51.55	27.50	57.54	15.40	25.66	18.06	15.94	16.84	18.11
Interest on real estate	13.84	13.84	13.82	13.82	13.88	13.96	68.73	86.73	82.76	76.51	62.31	26.69	21.67	20.18	20.35	22.67
Total, fixed cash expenses	41.61	41.92	44.65	47.19	52.11	44.93	186.26	187.30	160.30	185.04	112.93	109.17	96.05	95.18	94.87	105.11
Total, cash expenses	263.99	255.88	291.47	310.70	338.34	338.87	515.05	522.51	483.05	530.71	447.07	429.83	429.71	452.34	441.21	472.51
Gross value of production less cash expenses	231.64	314.82	296.67	322.69	166.00	29.38	380.43	227.38	56.28	237.58	253.01	480.59	316.05	358.57	332.50	480.88
Harvest-period price (dollars/lb.)	0.20	0.21	0.22	0.22	0.21	0.23	0.28	0.27	0.25	0.27	0.24	0.29	0.28	0.28	0.30	0.31
Yield (lbs./planted acre)	2,429.00	2,738.00	2,691.00	2,887.00	2,332.00	1,566.58	3,165.37	2,795.20	2,084.35	2,820.20	2,826.16	3,061.27	2,635.69	2,808.86	2,543.00	2,994.30

Table 36B--Peanut production economic costs and returns, Virginia and North Carolina, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production:																
Peanuts	490.51	564.19	582.23	627.61	497.35	362.54	887.49	741.40	525.40	754.40	686.76	900.76	734.81	796.01	761.64	941.55
Peanut hay	5.11	6.50	5.91	5.77	7.00	5.71	7.99	8.49	13.93	13.89	13.32	9.66	10.95	14.90	12.07	11.84
Total, gross value of production	495.62	570.69	588.14	633.39	504.35	368.25	895.48	749.89	539.33	768.29	700.08	910.42	745.76	810.91	773.71	953.39
Economic (full ownership) costs:																
Variable cash expenses	222.37	213.95	246.82	263.51	286.24	293.94	328.79	335.21	322.75	345.67	334.14	320.66	333.66	357.16	346.34	367.40
General farm overhead	15.44	16.13	17.17	18.38	20.81	10.58	46.68	36.78	37.06	37.76	25.20	39.65	38.78	41.23	39.76	46.02
Taxes and insurance	4.89	5.07	7.08	7.62	8.47	9.65	11.61	12.24	12.98	13.23	10.02	17.17	17.54	17.83	17.92	18.31
Capital replacement	16.60	17.77	27.36	30.02	32.13	34.84	47.06	50.55	53.45	53.98	30.24	57.28	56.60	59.86	61.73	65.40
Operating capital	3.65	2.89	4.31	6.16	9.08	11.39	14.43	12.66	10.30	11.99	8.99	6.25	7.42	9.07	10.26	9.75
Other nonland capital	5.13	5.14	7.06	7.24	7.61	7.44	9.24	9.48	9.06	11.07	6.62	12.45	12.02	14.83	18.58	21.63
Land	83.40	102.67	113.99	130.58	108.60	87.58	164.43	131.94	82.86	121.81	106.77	97.18	80.36	82.77	89.05	97.79
Peanut quota	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	106.61	106.18	107.48	107.58	110.31
Unpaid labor	11.23	14.00	14.04	14.25	16.58	17.24	15.27	15.98	16.39	16.20	17.73	35.84	38.99	40.40	40.22	41.28
Subtotal	362.71	377.62	437.84	477.77	489.53	472.66	637.51	604.84	544.85	611.70	539.71	693.09	691.55	730.63	731.44	777.89
Residual returns to management and risk	132.91	193.07	150.30	155.62	14.82	-104.41	257.97	145.05	-5.52	156.59	160.37	217.33	54.21	80.28	42.27	175.50
Harvest-period price (dollars/lb.)	0.20	0.21	0.22	0.22	0.21	0.23	0.28	0.27	0.25	0.27	0.24	0.29	0.28	0.28	0.30	0.31
Yield (lbs./planted acre)	2,429.00	2,738.00	2,691.00	2,887.00	2,332.00	1,566.58	3,165.37	2,795.20	2,084.35	2,820.20	2,826.16	3,061.27	2,635.69	2,808.86	2,543.00	2,994.30

N/A = Not available.

Note: Survey base changed in 1986.

Figure 21

## Cotton Production Regions

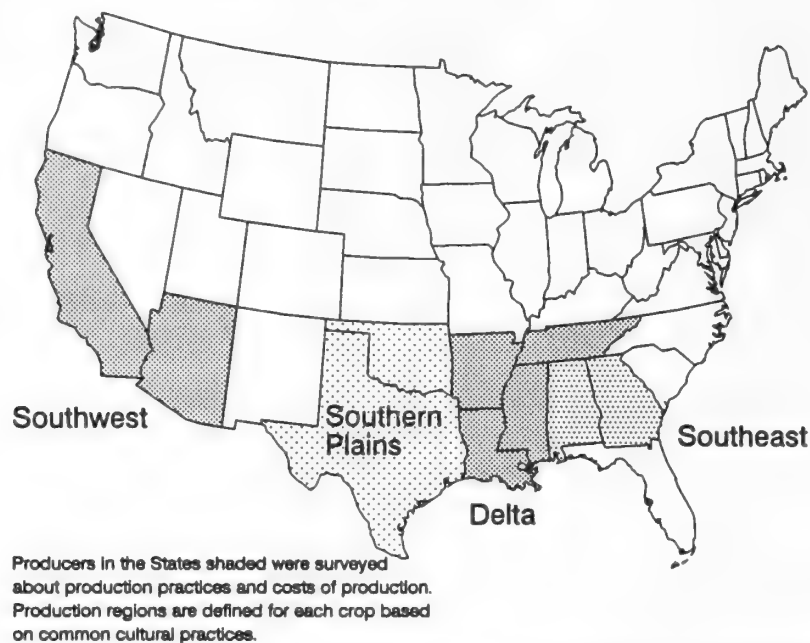


Figure 22

## Cotton production costs per planted acre, 1990

Dollars

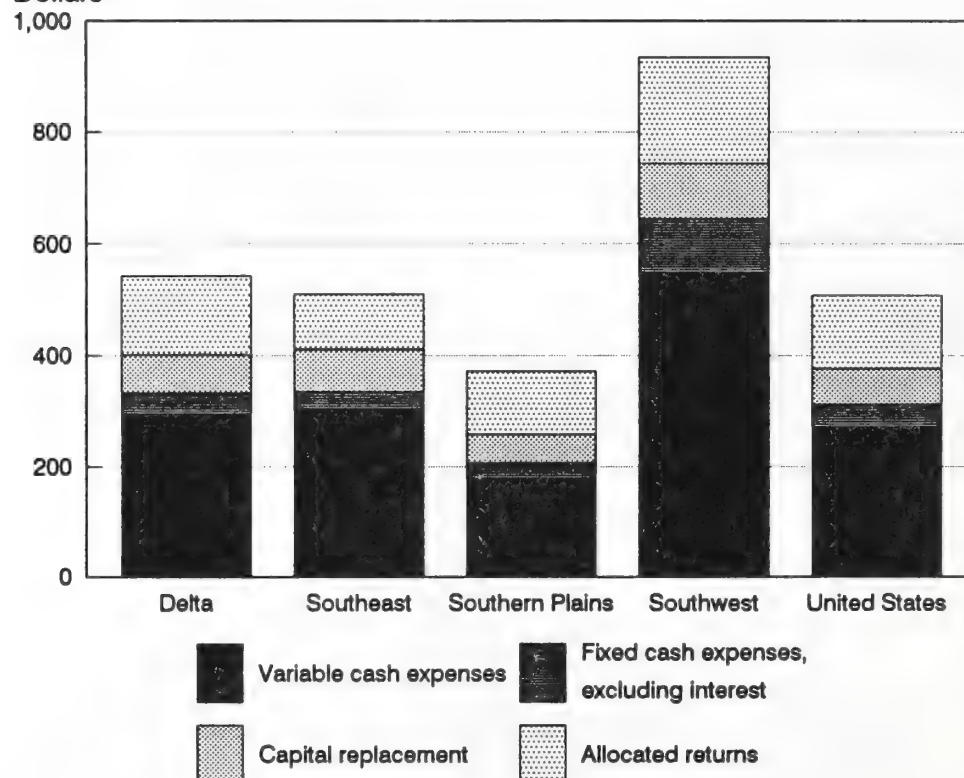




Table 37A--U.S. cotton production cash costs and returns, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct Government payments):																
Cotton	211.67	277.75	262.49	226.06	316.28	274.16	286.69	319.22	312.23	318.77	330.89	225.95	446.48	314.46	362.87	404.44
Cottonseed	40.73	48.04	51.59	36.27	49.74	39.62	38.86	35.16	64.82	46.48	32.97	29.73	47.13	58.58	48.57	59.20
Total, gross value of production	252.40	325.79	314.09	262.33	366.02	313.78	325.55	354.38	377.05	365.25	363.86	255.68	493.61	373.04	411.44	463.64
Cash expenses:																
Seed	5.88	5.03	6.67	6.18	6.23	6.27	8.30	8.53	8.35	8.96	8.75	6.23	8.16	8.65	8.44	9.11
Fertilizer	17.86	17.06	17.26	13.49	14.44	17.79	21.66	25.65	21.25	24.28	23.59	23.16	22.24	25.99	28.43	26.15
Lime and gypsum	0.55	0.71	0.54	0.36	0.35	0.48	0.96	1.14	1.11	1.31	1.38	0.44	0.41	0.40	0.40	0.34
Chemicals	29.83	25.20	19.47	35.27	34.92	37.31	42.27	47.70	48.88	51.26	52.60	44.23	44.51	45.75	48.71	51.19
Custom operations	7.19	8.08	10.18	8.40	8.87	9.81	14.26	15.92	15.46	15.97	13.65	10.32	11.89	11.63	11.79	12.87
Fuel, lube, and electricity	16.36	18.09	22.65	18.42	27.43	35.10	35.19	35.98	32.72	29.42	34.02	22.60	31.53	32.87	34.25	36.49
Repairs	22.75	23.21	27.07	21.71	25.64	28.42	17.37	18.45	19.70	19.03	19.05	19.74	21.13	23.28	24.64	24.87
Hired labor	12.52	14.73	17.06	23.21	26.38	27.74	21.59	23.32	23.28	23.16	24.60	37.69	40.21	41.01	42.96	43.80
Purchased irrigation water	3.00	3.37	4.24	3.50	3.88	3.94	5.41	6.24	6.26	6.37	6.32	8.47	9.12	9.03	9.30	8.67
Ginning	25.14	28.24	35.59	29.36	41.10	33.48	46.87	49.86	44.95	54.48	58.50	43.57	65.39	55.77	50.60	56.47
Miscellaneous	0	0	0	0	0	0	1.13	1.31	1.31	1.33	1.32	0	0	0	0	0
Technical services	0	0	0	0	0	0	1.24	1.70	1.65	1.70	1.72	1.59	1.55	1.54	1.52	1.55
Total, variable cash expenses	141.08	143.71	160.73	159.90	189.24	200.34	216.25	235.80	224.92	237.27	245.50	217.84	256.14	255.92	260.04	271.51
General farm overhead	14.23	15.33	16.37	12.53	13.28	9.61	20.89	23.88	23.23	24.28	21.16	21.29	21.59	23.46	22.29	25.80
Taxes and insurance	6.14	6.57	7.64	8.27	9.28	11.50	9.95	9.33	9.30	10.06	10.55	12.66	14.13	14.58	15.00	15.14
Interest on operating loans	6.57	6.08	5.81	6.52	7.90	9.49	27.68	31.74	26.32	27.06	19.74	21.84	15.54	14.02	14.60	15.70
Interest on real estate	10.28	10.27	10.27	10.26	10.31	10.37	25.23	23.14	28.21	28.21	26.14	22.17	18.68	17.25	17.60	19.60
Total, fixed cash expenses	37.23	38.26	40.09	37.58	40.77	40.97	83.75	88.09	87.29	89.61	77.59	77.96	69.94	69.31	69.49	76.24
Total, cash expenses	178.31	181.97	200.82	197.48	230.01	241.31	300.00	323.89	312.21	326.88	323.09	295.80	326.08	325.23	329.53	347.75
Gross value of production less cash expenses	74.09	143.82	113.27	64.86	136.01	72.47	25.55	30.49	64.84	38.37	40.77	-40.12	167.53	47.81	81.91	115.89
Harvest-period price (dollars/lb.)	0.51	0.64	0.52	0.58	0.63	0.75	0.55	0.58	0.66	0.57	0.55	0.49	0.65	0.53	0.66	0.67
Yield (lbs./planted acre)	416.00	435.00	505.00	390.00	502.40	367.19	523.88	550.73	470.40	554.65	598.35	462.97	684.66	593.33	549.80	603.64

Table 37B--U.S. cotton production economic costs and returns, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct Government payments):																
Cotton	211.67	277.75	262.49	226.06	316.28	274.16	286.69	319.22	312.23	318.77	330.89	225.95	446.48	314.46	362.87	404.44
Cottonseed	40.73	48.04	51.59	36.27	49.74	39.62	38.86	35.16	64.82	46.48	32.97	29.73	47.13	58.58	48.57	59.20
Total, gross value of production	252.40	325.79	314.09	262.33	366.02	313.78	325.55	354.38	377.05	365.25	363.86	255.68	493.61	373.04	411.44	463.64
Economic (full ownership) costs:																
Variable cash expenses	141.08	143.71	160.73	159.90	189.24	200.34	216.25	235.80	224.92	237.27	245.50	217.84	256.14	255.92	260.04	271.51
General farm overhead	14.23	15.33	16.37	12.53	13.28	9.61	20.89	23.88	23.23	24.28	21.16	21.29	21.59	23.46	22.29	25.80
Taxes and insurance	6.14	6.57	7.64	8.27	9.28	11.50	9.95	9.33	9.30	10.06	10.55	12.66	14.13	14.58	15.00	15.14
Capital replacement	31.25	39.59	41.10	34.98	42.74	46.23	38.21	42.58	44.88	44.06	45.57	50.35	55.16	59.78	62.64	64.69
Operating capital	2.63	2.25	2.82	3.70	5.29	6.80	8.83	7.76	5.80	6.67	5.38	5.09	6.13	7.22	8.92	8.35
Other nonland capital	8.23	9.76	9.04	7.19	8.63	9.13	6.23	6.65	6.36	7.88	7.66	8.76	9.39	11.83	15.07	17.16
Land	25.86	33.42	32.10	40.77	49.31	43.24	50.55	58.00	62.84	60.50	58.63	51.44	83.85	71.00	73.36	82.38
Unpaid labor	5.11	6.01	6.97	9.48	10.77	11.33	8.82	9.53	9.51	9.46	10.05	20.65	21.36	21.66	22.71	23.46
Subtotal	234.53	256.64	276.78	276.83	328.54	338.18	359.73	393.52	386.84	400.18	404.50	388.08	467.75	465.45	480.03	508.49
Residual returns to management and risk	17.87	69.15	37.31	-14.49	37.47	-24.40	-34.18	-39.14	-9.79	-34.93	-40.64	-132.40	25.86	-92.41	-68.59	-44.85
Harvest-period price (dollars/lb.)	0.51	0.64	0.52	0.58	0.63	0.75	0.55	0.58	0.66	0.57	0.55	0.49	0.65	0.53	0.66	0.67
Yield (lbs./planted acre)	416.00	435.00	505.00	390.00	502.40	367.19	523.88	550.73	470.40	554.65	598.35	462.97	684.66	593.33	549.80	603.64

Table 38A--Cotton production cash costs and returns, Delta, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct Government payments):																
Cotton	224.77	225.26	278.48	278.91	362.86	301.64	295.46	426.17	359.38	378.68	366.24	273.78	502.38	350.43	415.75	430.61
Cottonseed	42.79	38.54	54.15	44.27	59.30	41.56	34.50	36.70	70.01	43.97	26.90	29.10	47.43	57.91	52.44	59.93
Total, gross value of production	267.56	263.81	332.63	323.18	422.16	343.20	329.96	462.87	429.39	422.65	393.14	302.88	549.81	408.34	468.19	490.54
Cash expenses:																
Seed	5.79	5.02	6.37	5.46	5.47	5.74	6.16	6.20	6.29	8.58	7.98	5.35	7.65	7.21	7.91	8.57
Fertilizer	26.98	19.87	22.32	20.78	22.33	28.72	31.36	31.22	30.30	34.60	32.81	29.89	27.75	34.31	36.82	34.72
Lime and gypsum	1.02	1.13	1.07	0.92	1.01	1.28	1.71	1.85	1.86	1.85	1.74	0.74	0.72	0.69	0.69	0.57
Chemicals	35.86	44.45	40.46	58.04	60.43	63.56	71.81	78.42	80.71	82.69	82.95	73.34	70.14	71.17	74.49	78.75
Custom operations	6.38	5.47	9.02	8.65	9.25	10.62	8.72	9.37	9.57	9.75	8.47	10.99	12.41	11.76	12.38	12.88
Fuel, lube, and electricity	8.14	6.87	11.26	10.65	18.73	24.77	28.70	28.38	23.07	18.90	22.50	19.24	25.75	27.10	26.64	31.38
Repairs	29.53	23.01	35.10	32.74	35.22	40.96	18.05	20.92	21.72	22.34	22.03	23.33	24.41	29.24	27.18	28.30
Hired labor	12.28	13.55	16.76	19.40	22.10	23.70	17.47	18.84	18.96	19.24	18.97	39.36	40.83	41.32	42.83	47.45
Ginning	23.82	20.44	33.69	32.32	39.11	29.93	37.05	55.09	43.18	57.08	56.83	43.36	60.74	52.14	50.34	51.40
Miscellaneous	0	0	0	0	0	0	2.59	2.48	2.49	2.53	2.51	0	0	0	0	0
Technical services	0	0	0	0	0	0	2.45	2.94	2.87	2.87	2.88	0.64	0.68	0.68	0.68	0.69
Total, variable cash expenses	149.79	139.81	176.05	188.96	213.65	229.28	226.07	255.71	241.02	260.44	259.67	246.24	271.08	275.62	279.96	294.71
General farm overhead	14.98	15.14	16.12	13.01	13.16	8.35	18.83	23.23	23.23	23.67	21.68	21.32	20.54	21.91	21.02	24.33
Taxes and insurance	6.65	6.95	9.13	10.49	11.29	11.42	7.91	8.52	9.02	9.58	9.90	13.12	13.87	14.85	14.74	14.72
Interest on operating loans	7.25	6.70	6.41	7.18	8.71	10.46	25.56	43.84	27.61	30.94	22.56	22.56	15.71	13.97	14.61	15.71
Interest on real estate	10.76	10.76	10.74	10.74	10.79	10.85	20.12	32.05	23.69	32.74	21.98	20.34	16.63	15.37	15.70	17.49
Total, fixed cash expenses	39.64	39.54	42.40	41.42	43.95	41.08	72.42	107.64	85.55	96.93	75.67	77.34	66.75	66.10	66.07	72.25
Total, cash expenses	189.43	179.35	218.45	230.38	257.60	270.36	298.49	363.35	326.57	357.37	335.34	323.58	337.83	341.72	346.03	366.96
Gross value of production less cash expenses	78.13	84.45	114.19	92.80	164.57	72.84	31.47	99.52	104.82	65.28	57.80	-20.70	211.98	66.62	122.16	123.58
Harvest-period price (dollars/lb.)	0.51	0.64	0.52	0.59	0.64	0.77	0.56	0.58	0.66	0.55	0.54	0.48	0.64	0.53	0.64	0.65
Yield (lbs./planted acre)	437.00	349.00	530.00	476.00	570.20	393.76	524.32	732.53	541.26	690.95	674.14	565.15	779.91	661.18	649.61	662.47

Table 38B--Cotton production economic costs and returns, Delta, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct Government payments):																
Cotton	224.77	225.26	278.48	278.91	362.86	301.64	295.46	426.17	359.38	378.68	366.24	273.78	502.38	350.43	415.75	430.61
Cottonseed	42.79	38.54	54.15	44.27	59.30	41.56	34.50	36.70	70.01	43.97	26.90	29.10	47.43	57.91	52.44	59.93
Total, gross value of production	267.56	263.81	332.63	323.18	422.16	343.20	329.96	462.87	429.39	422.65	393.14	302.88	549.81	408.34	468.19	490.54
Economic (full ownership) costs:																
Variable cash expenses	149.79	139.81	176.05	188.96	213.65	229.28	226.07	255.71	241.02	260.44	259.67	246.24	271.08	275.62	279.96	294.71
General farm overhead	14.98	15.14	16.12	13.01	13.16	8.35	18.83	23.23	23.23	23.67	21.68	21.32	20.54	21.91	21.02	24.33
Taxes and insurance	6.65	6.95	9.13	10.49	11.29	11.42	7.91	8.52	9.02	9.58	9.90	13.12	13.87	14.85	14.74	14.72
Capital replacement	41.66	46.19	58.39	49.03	51.99	57.11	45.66	52.01	53.83	50.48	48.29	56.25	59.38	67.86	67.09	67.85
Operating capital	2.38	2.07	2.46	3.68	5.15	6.71	7.19	7.87	5.33	6.52	5.12	5.16	5.83	7.10	8.54	8.33
Other nonland capital	10.88	11.29	12.74	10.00	10.41	11.83	7.19	7.34	7.34	9.05	8.43	10.56	10.97	14.41	17.54	19.69
Land	35.43	35.86	41.57	51.92	63.03	56.32	55.55	66.20	60.50	62.88	57.61	69.14	91.46	80.67	91.92	89.00
Unpaid labor	5.01	5.53	6.85	7.93	9.02	9.68	7.13	7.69	7.74	7.86	7.75	20.73	20.69	21.11	21.50	24.32
Subtotal	266.79	262.84	323.30	335.02	377.71	390.70	376.99	428.53	408.01	430.47	418.45	442.52	493.82	503.53	522.71	542.95
Residual returns to management and risk	0.77	0.97	9.33	-11.84	44.45	-47.50	-47.03	34.34	21.38	-7.82	-25.31	-139.64	55.99	-95.19	-54.52	-52.41
Harvest-period price (dollars/lb.)	0.51	0.64	0.52	0.59	0.64	0.77	0.56	0.58	0.66	0.55	0.54	0.48	0.64	0.53	0.64	0.65
Yield (lbs./planted acre)	437.00	349.00	530.00	476.00	570.20	393.76	524.32	732.53	541.26	690.95	674.14	565.15	779.91	661.18	649.61	662.47

Note: Survey base changed in 1986.



Table 394--Cotton production cash costs and returns, Southeast, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct Government payments):																
Cotton	196.00	245.96	142.02	267.94	317.12	271.96	301.61	427.81	269.57	412.84	398.45	223.26	396.01	257.84	375.58	336.20
Cottonseed	33.56	37.85	24.84	38.25	41.68	31.05	34.95	35.27	52.97	49.64	28.95	23.04	34.63	42.53	43.41	44.76
Total, gross value of production	229.56	283.81	166.86	306.19	358.80	303.01	336.56	463.08	322.54	462.48	427.40	246.30	430.64	300.37	418.99	380.96
Cash expenses:																
Seed	5.14	5.62	6.20	6.15	6.12	5.50	5.46	5.23	5.52	6.96	6.48	5.36	6.41	6.83	6.79	7.24
Fertilizer	42.02	34.53	40.33	32.81	30.02	40.54	41.68	42.69	40.73	41.99	38.47	26.32	24.94	30.87	32.80	30.11
Lime and gypsum	3.21	3.85	3.86	3.38	3.75	4.42	6.60	6.72	6.82	9.00	8.53	3.09	2.19	1.98	2.07	1.62
Chemicals	57.93	51.74	46.70	86.34	12.54	93.36	94.31	101.31	105.12	106.95	110.35	99.30	96.99	98.68	103.30	108.90
Custom operations	7.99	8.58	6.61	11.94	12.54	13.82	10.72	11.30	11.55	12.06	10.00	7.36	9.74	8.04	8.87	7.98
Fuel, lube, and electricity	6.98	7.38	5.65	10.06	17.71	24.56	25.94	25.13	21.30	18.87	20.63	16.45	21.60	21.68	23.84	28.61
Repairs	23.65	23.07	16.44	28.88	35.73	41.56	16.55	18.66	19.10	20.13	20.14	18.50	20.33	21.82	23.34	24.94
Hired labor	11.62	12.72	13.60	15.26	18.25	19.48	15.19	15.81	15.72	15.51	16.17	42.82	44.56	46.37	49.63	51.81
Ginning	19.84	21.31	16.41	29.65	33.37	24.50	39.56	60.06	33.39	62.18	64.37	37.20	49.60	40.45	48.28	42.28
Miscellaneous	0	0	0	0	0	0	2.70	1.82	1.83	1.86	1.85	0	0	0	0	0
Technical services	0	0	0	0	0	0	1.94	2.73	2.72	2.72	2.76	0.24	0.24	0.24	0.24	0.25
Total, variable cash expenses	178.37	148.80	155.79	224.47	245.36	267.94	260.65	291.46	263.80	298.23	299.74	256.64	276.60	276.96	299.16	303.74
General farm overhead	10.98	11.57	12.34	12.18	11.94	6.17	12.46	17.35	17.40	17.79	15.23	13.60	13.31	14.01	13.84	16.02
Taxes and insurance	6.11	6.79	7.47	10.36	12.34	12.38	8.29	8.85	9.38	10.26	11.62	12.72	13.63	14.10	14.94	15.25
Interest on operating loans	6.36	5.88	5.63	6.30	7.65	9.18	27.18	36.90	27.96	20.51	16.04	14.53	10.27	8.96	9.82	10.56
Interest on real estate	5.46	5.46	5.45	5.45	5.48	5.51	24.07	29.52	39.65	24.79	28.62	15.43	12.58	11.40	13.79	13.79
Total, fixed cash expenses	28.91	29.71	30.89	34.30	37.40	33.24	72.00	92.62	94.39	73.35	71.51	56.28	49.79	48.47	50.98	55.62
Total, cash expenses	207.28	198.51	186.68	258.77	282.76	301.18	332.65	384.08	358.19	371.58	371.25	312.92	326.39	325.43	350.14	359.36
Gross value of production less cash expenses	22.27	85.29	-19.82	47.42	76.04	1.83	3.91	79.00	-35.65	90.90	56.15	-66.62	104.25	-25.06	68.85	21.60
Harvest-period price (dollars/lb.)	0.52	0.66	0.53	0.60	0.65	0.79	0.57	0.58	0.67	0.58	0.55	0.49	0.66	0.53	0.64	0.66
Yield (lbs./planted acre)	375.00	375.00	266.00	450.00	490.40	344.12	528.69	739.39	400.00	713.34	728.96	457.82	603.08	486.49	586.85	509.39

Table 398--Cotton production economic costs and returns, Southeast, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct Government payments):																
Cotton	196.00	245.96	142.02	267.94	317.12	271.96	301.61	427.81	269.57	412.84	398.45	223.26	396.01	257.84	375.58	336.20
Cottonseed	33.56	37.85	24.84	38.25	41.68	31.05	34.95	35.27	52.97	49.64	28.95	23.04	34.63	42.53	43.41	44.76
Total, gross value of production	229.56	283.81	166.86	306.19	358.80	303.01	336.56	463.08	322.54	462.48	427.40	246.30	430.64	300.37	418.99	380.96
Economic (full ownership) costs:																
Variable cash expenses	178.37	148.80	155.79	224.47	245.36	267.94	260.65	291.46	263.80	298.23	299.74	256.64	276.60	276.96	299.16	303.74
General farm overhead	10.98	11.57	12.34	12.18	11.94	6.17	12.46	17.35	17.40	17.79	15.23	13.60	13.31	14.01	13.84	16.02
Taxes and insurance	6.11	6.79	7.47	10.36	12.34	12.38	8.29	8.85	9.38	10.26	11.62	12.72	13.63	14.10	14.94	15.25
Capital replacement	35.13	42.86	40.21	46.20	56.42	61.99	46.98	52.00	53.82	55.95	59.74	58.39	63.37	67.97	73.71	76.63
Operating capital	3.76	2.84	3.10	4.84	6.41	8.68	10.56	8.82	6.99	7.91	6.18	7.15	8.28	9.47	11.87	11.25
Other nonland capital	9.51	10.86	9.10	9.77	11.72	13.33	7.67	8.15	7.58	9.89	10.02	9.94	10.71	13.42	17.46	20.29
Land	24.92	28.74	20.36	32.66	40.46	40.36	46.21	54.80	47.88	54.78	49.25	41.01	46.50	43.95	49.90	45.56
Unpaid labor	4.75	5.20	5.56	6.23	7.45	7.96	6.21	6.46	6.42	6.33	6.60	16.46	17.34	17.98	20.50	21.80
Subtotal	273.53	277.68	253.93	346.71	392.09	418.81	399.03	447.89	413.27	461.14	458.39	415.91	449.74	457.86	501.38	510.54
Residual returns to management and risk	-43.97	6.13	-87.07	-40.52	-33.29	-115.80	-62.47	15.19	-90.73	1.34	-30.99	-169.61	-19.10	-157.49	-82.39	-129.58
Harvest-period price (dollars/lb.)	0.52	0.66	0.53	0.60	0.65	0.79	0.57	0.58	0.67	0.58	0.55	0.49	0.66	0.53	0.64	0.66
Yield (lbs./planted acre)	375.00	375.00	266.00	450.00	490.40	344.12	528.69	739.39	400.00	713.34	728.96	457.82	603.08	486.49	586.85	509.39

Note: Survey base changed in 1986.

Table 40A--Cotton production cash costs and returns, Southern Plains, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct Government payments):																
Cotton	119.77	188.17	185.87	138.53	197.17	140.02	174.06	137.64	172.93	169.33	199.09	123.64	295.23	206.47	185.02	276.34
Cottonseed	24.83	35.05	39.35	23.94	34.16	20.47	29.09	18.63	41.39	29.27	20.80	14.63	32.27	42.14	31.13	41.23
Total, gross value of production	144.60	223.22	225.22	162.47	231.34	160.49	203.15	156.27	214.32	198.60	219.89	138.27	327.50	248.61	216.15	317.57
Cash expenses:																
Seed	5.86	4.57	6.68	6.49	6.51	6.41	9.59	10.23	9.25	9.57	9.51	6.18	8.44	9.44	8.36	9.07
Fertilizer	4.96	7.42	7.79	5.38	8.11	8.82	11.80	10.20	8.56	9.93	9.49	12.24	11.12	12.69	14.28	12.36
Chemicals	17.60	6.36	5.69	10.66	10.88	11.61	20.80	21.20	24.14	24.48	24.16	18.02	18.36	18.67	19.58	20.69
Custom operations	3.08	4.14	5.45	3.89	4.01	4.55	7.29	6.51	7.35	7.45	6.62	6.45	7.70	7.82	6.85	9.17
Fuel, lube, and electricity	11.19	14.82	19.39	13.65	20.09	26.45	28.03	26.57	26.14	24.72	26.53	20.06	24.53	25.73	26.80	29.48
Repairs	12.47	15.22	18.56	12.88	15.96	16.76	14.54	14.37	16.14	15.14	14.99	16.52	16.98	17.91	18.53	20.09
Hired labor	9.00	10.96	12.23	18.08	20.96	22.21	17.42	17.58	18.06	17.73	20.24	26.73	27.61	27.70	28.88	29.02
Purchased irrigation water	0.08	0.11	0.14	0.10	0.08	0.10	1.17	1.38	1.39	1.41	1.40	0.24	0.47	0.47	0.50	0.52
Ginning	17.17	23.10	30.42	21.72	32.03	21.51	35.37	27.24	29.95	35.68	39.90	27.90	52.51	46.87	31.83	46.76
Technical services	0	0	0	0	0	0	0.15	0.46	0.57	0.55	0.52	2.40	2.41	2.40	2.39	2.43
Total, variable cash expenses	81.40	86.70	106.35	92.85	118.63	118.42	146.16	135.74	141.55	146.66	153.36	137.54	170.13	169.70	158.00	179.59
General farm overhead	8.71	8.80	9.38	8.18	8.26	8.95	13.20	8.60	9.03	9.11	11.02	12.60	12.31	13.04	12.63	14.62
Taxes and insurance	5.71	5.83	6.86	6.57	7.41	6.97	6.31	5.85	6.25	6.48	7.01	10.04	11.29	11.47	11.85	12.24
Interest on operating loans	5.50	4.90	4.69	5.25	6.37	7.65	18.57	11.71	11.64	11.35	12.16	19.04	13.39	11.84	12.51	13.46
Interest on real estate	7.83	7.83	7.82	7.82	7.85	7.90	13.43	8.97	10.11	8.35	8.78	13.96	11.32	10.49	10.66	11.87
Total, fixed cash expenses	27.55	27.37	28.74	27.82	29.90	31.47	51.51	35.13	37.03	35.29	38.97	55.64	48.31	46.84	47.65	52.19
Total, cash expenses	108.95	114.06	135.09	120.67	148.53	149.89	197.67	170.87	178.58	181.95	192.33	193.18	218.44	216.54	205.65	231.78
Gross value of production less cash expenses	35.65	109.16	90.13	41.80	82.81	10.60	5.48	-14.60	35.74	16.65	27.56	-54.91	109.06	32.07	10.50	85.79
Harvest-period price (dollars/lb.)	0.46	0.57	0.47	0.52	0.57	0.70	0.48	0.51	0.60	0.52	0.53	0.49	0.63	0.47	0.62	0.63
Yield (lbs./planted acre)	262.00	328.00	398.00	266.00	348.60	201.02	362.39	267.63	287.70	322.74	374.83	253.48	470.63	439.29	298.42	438.63

Table 40B--Cotton production economic costs and returns, Southern Plains, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct Government payments):																
Cotton	119.77	188.17	185.87	138.53	197.17	140.02	174.06	137.64	172.93	169.33	199.09	123.64	295.23	206.47	185.02	276.34
Cottonseed	24.83	35.05	39.35	23.94	34.16	20.47	29.09	18.63	41.39	29.27	20.80	14.63	32.27	42.14	31.13	41.23
Total, gross value of production	144.60	223.22	225.22	162.47	231.34	160.49	203.15	156.27	214.32	198.60	219.89	138.27	327.50	248.61	216.15	317.57
Economic (full ownership) costs:																
Variable cash expenses	81.40	86.70	106.35	92.85	118.63	118.42	146.16	135.74	141.55	146.66	153.36	137.54	170.13	169.70	158.00	179.59
General farm overhead	8.71	8.80	9.38	8.18	8.26	8.95	13.20	8.60	9.03	9.11	11.02	12.60	12.31	13.04	12.63	14.62
Taxes and insurance	5.71	5.83	6.86	6.57	7.41	6.97	6.31	5.85	6.25	6.48	7.01	10.04	11.29	11.47	11.85	12.24
Capital replacement	21.70	29.29	32.01	22.88	30.11	32.31	28.93	28.84	32.57	33.14	35.60	42.26	43.61	46.00	49.04	52.24
Operating capital	1.97	1.63	1.55	2.27	3.50	4.55	5.98	4.83	3.87	4.32	3.48	3.35	3.94	4.48	5.63	5.33
Other nonland capital	5.79	7.31	7.13	4.76	6.16	6.18	4.86	4.60	4.72	5.89	5.77	7.14	7.23	8.89	11.41	13.33
Land	14.52	23.92	22.98	26.45	33.09	21.21	33.92	28.23	38.89	34.85	39.45	32.57	74.82	57.14	49.87	73.78
Unpaid labor	3.67	4.48	4.99	7.39	8.56	9.07	7.11	7.18	7.38	7.24	8.27	19.47	20.11	20.16	21.99	21.99
Subtotal	143.47	167.95	191.24	171.35	215.72	207.66	246.47	223.88	244.26	247.69	263.95	264.97	343.44	330.88	320.42	373.12
Residual returns to management and risk	1.13	55.27	33.98	-8.88	15.62	-47.17	-43.32	-67.61	-29.94	-49.09	-44.06	-126.70	-15.94	-82.27	-104.27	-55.55
Harvest-period price (dollars/lb.)	0.46	0.57	0.47	0.52	0.57	0.70	0.48	0.51	0.60	0.52	0.53	0.49	0.63	0.47	0.62	0.63
Yield (lbs./planted acre)	262.00	328.00	398.00	266.00	348.60	201.02	362.39	267.63	287.70	322.74	374.83	253.48	470.63	439.29	298.42	438.63

Note: Survey base changed in 1986.



Table 41A--Cotton production cash costs and returns, Southwest, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct Government payments):																
Cotton	558.33	747.54	549.04	447.62	682.36	784.60	697.48	671.15	742.88	678.84	673.69	547.02	876.89	639.70	828.05	841.11
Cottonseed	106.97	128.73	107.44	71.50	97.35	117.82	83.63	80.88	142.72	104.73	84.43	93.80	101.19	121.05	100.91	131.00
Total, gross value of production	665.30	876.26	656.48	519.12	779.71	902.42	781.11	752.03	885.60	783.57	758.12	640.82	978.08	760.75	928.96	972.11
Cash expenses:																
Seed	6.68	6.24	7.36	6.09	6.09	6.67	7.45	7.68	9.13	8.34	8.57	8.41	8.76	9.29	10.31	11.23
Fertilizer	33.67	32.06	32.72	27.89	24.95	32.10	38.36	57.69	45.40	48.94	47.98	53.17	48.98	53.80	58.27	57.56
Lime and gypsum	0.00	0.00	0.00	0.00	0.00	0.00	1.59	1.68	1.78	1.86	1.91	0.61	0.61	0.60	0.56	0.55
Chemicals	47.46	22.75	20.83	80.19	81.43	88.16	63.53	67.33	69.91	70.38	69.61	69.60	68.25	70.27	77.55	80.42
Custom operations	27.33	31.33	30.68	23.96	25.63	28.91	49.92	53.02	52.91	54.27	46.66	25.76	25.85	25.59	28.05	28.77
Fuel, lube, and electricity	59.25	66.85	65.05	50.09	67.36	88.00	74.94	76.45	72.75	64.16	83.28	41.37	68.67	71.32	76.27	76.76
Repairs	51.46	53.57	48.55	36.86	48.20	54.53	27.42	27.01	29.43	26.31	27.11	26.46	29.71	31.39	34.22	35.44
Hired labor	27.79	32.48	37.39	50.32	53.68	58.52	45.60	48.12	49.95	49.48	51.92	76.22	79.73	82.69	86.88	87.36
Purchased irrigation water	25.52	29.25	28.64	22.37	23.54	26.35	31.18	33.77	33.89	34.48	34.20	60.25	57.15	56.97	58.34	60.93
Ginning	61.31	70.29	68.82	53.75	79.34	90.12	107.19	105.17	103.26	108.66	119.26	107.56	122.56	97.95	113.62	109.56
Miscellaneous	0	0	0	0	0	0	2.21	3.99	4.00	4.07	4.04	0	0	0	0	0
Technical services	0	0	0	0	0	0	4.00	3.34	3.33	3.33	3.32	0.68	0.68	0.68	0.68	0.70
Total, variable cash expenses	340.48	344.82	340.04	351.52	410.22	473.36	453.39	485.25	475.74	474.27	497.86	470.09	510.95	500.55	544.75	549.28
General farm overhead	46.31	49.18	52.40	29.59	35.59	15.16	56.02	70.98	74.27	76.81	56.39	59.03	57.76	62.61	59.75	69.16
Taxes and insurance	6.78	7.97	7.99	10.91	13.15	29.85	27.32	20.56	20.18	22.32	22.64	22.64	24.28	24.66	25.85	26.74
Interest on operating loans	10.94	10.12	9.68	10.84	13.15	15.79	65.53	72.37	74.49	74.73	42.58	34.60	24.52	22.94	23.33	25.09
Interest on real estate	21.15	21.15	21.12	21.11	21.11	21.33	77.82	50.57	93.96	87.18	88.42	61.00	49.25	44.03	45.87	51.09
Total, fixed cash expenses	85.18	88.41	91.18	72.45	83.09	82.13	226.69	214.48	262.90	261.04	210.03	176.86	155.81	154.24	154.80	172.08
Total, cash expenses	425.66	433.23	431.22	423.97	493.32	555.49	680.08	699.73	738.64	735.31	707.89	646.95	666.76	654.79	699.55	721.36
Gross value of production less cash expenses	239.64	443.03	225.26	95.15	286.39	346.93	101.03	52.30	146.96	48.26	50.23	-6.13	311.32	105.96	229.41	250.75
Harvest-period price (dollars/lb.)	0.55	0.69	0.56	0.63	0.68	0.77	0.61	0.63	0.72	0.65	0.59	0.49	0.69	0.62	0.70	0.74
Yield (lbs./planted acre)	1,016.00	1,084.00	978.00	715.00	1,003.60	1,016.29	1,136.00	1,073.72	1,028.17	1,044.56	1,146.77	1,112.57	1,269.99	1,031.77	1,182.93	1,136.63

Table 41B--Cotton production economic costs and returns, Southwest, 1975-90

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Dollars per planted acre																
Gross value of production (excluding direct Government payments):																
Cotton	558.33	747.54	549.04	447.62	682.36	784.60	697.48	671.15	742.88	678.84	673.69	547.02	876.89	639.70	828.05	841.11
Cottonseed	106.97	128.73	107.44	71.50	97.35	117.82	83.63	80.88	142.72	104.73	84.43	93.80	101.19	121.05	100.91	131.00
Total, gross value of production	665.30	876.26	656.48	519.12	779.71	902.42	781.11	752.03	885.60	783.57	758.12	640.82	978.08	760.75	928.96	972.11
Economic (full ownership) costs:																
Variable cash expenses	340.48	344.82	340.04	351.52	410.22	473.36	453.39	485.25	475.74	474.27	497.86	470.09	510.95	500.55	544.75	549.28
General farm overhead	46.31	49.18	52.40	29.59	35.59	15.16	56.02	70.98	74.27	76.81	56.39	59.03	57.76	62.61	59.75	69.16
Taxes and insurance	6.78	7.97	7.99	10.91	13.15	29.85	27.32	20.56	20.18	22.32	22.64	22.64	24.28	24.66	25.85	26.74
Capital replacement	43.48	56.22	44.96	56.86	75.74	83.01	59.81	67.11	71.74	65.46	67.09	68.46	83.51	88.31	95.16	98.80
Operating capital	5.15	4.52	8.15	8.66	11.90	15.49	19.31	16.49	12.63	14.05	11.62	11.07	13.17	15.64	19.32	18.27
Other nonland capital	11.25	13.62	9.72	11.49	15.03	16.08	9.58	10.55	10.26	11.80	11.45	11.43	13.40	16.52	21.74	24.64
Land	63.19	76.24	73.34	85.88	103.27	116.01	108.21	134.51	154.00	142.77	127.59	98.42	115.37	111.27	126.35	117.41
Unpaid labor	11.35	13.27	15.27	20.55	21.93	23.90	18.63	19.66	20.40	20.21	21.21	26.95	28.24	28.77	30.62	30.79
Subtotal	527.99	565.83	551.88	575.44	686.83	772.86	752.27	825.10	839.21	827.19	815.84	767.68	846.68	848.33	923.54	935.09
Residual returns to management and risk	137.31	310.44	104.60	-56.32	92.88	129.56	28.84	-73.07	46.39	-43.62	-57.72	-126.86	131.40	-87.58	5.42	37.02
Harvest-period price (dollars/lb.)	0.55	0.69	0.56	0.63	0.68	0.77	0.61	0.63	0.72	0.65	0.59	0.49	0.69	0.62	0.70	0.74
Yield (lbs./planted acre)	1,016.00	1,084.00	978.00	715.00	1,003.60	1,016.29	1,136.00	1,073.72	1,028.17	1,044.56	1,146.77	1,112.57	1,269.99	1,031.77	1,182.93	1,136.63

Note: Survey base changed in 1986.

Appendix table 1A--U.S. wheat production cash costs and returns, 1975-88

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Dollars per planted acre														
Gross value of production (excluding direct Government payments):														
Wheat	100.49	73.27	63.92	87.95	121.30	112.41	114.35	110.32	128.52	113.97	93.52	66.06	76.21	95.89
Wheat straw	3.90	4.18	3.96	3.89	3.56	4.07	4.61	4.37	4.45	4.48	2.48	2.06	2.18	3.78
Total, gross value of production	104.39	77.46	67.88	91.84	124.86	116.48	118.96	114.69	132.97	118.45	96.00	68.12	78.39	99.67
Cash expenses:														
Seed	6.44	5.83	3.93	4.00	5.01	6.51	7.19	6.65	6.37	6.48	7.59	7.29	6.62	6.69
Fertilizer	11.30	10.22	9.28	8.02	9.90	13.63	17.26	16.93	17.69	17.75	15.09	12.93	11.75	14.09
Lime and gypsum	0.14	0.15	0.13	0.12	0.16	0.23	0.35	0.63	0.67	0.62	0.82	1.60	1.52	1.25
Chemicals	1.19	1.30	1.14	2.12	2.08	2.23	2.41	3.16	3.27	3.19	4.26	4.06	3.82	3.82
Custom operations	1.80	1.84	2.04	2.35	2.68	2.94	4.41	5.74	5.90	5.93	3.94	3.94	3.95	3.73
Fuel, lube, and electricity	4.02	4.04	4.45	5.06	7.64	10.62	12.33	11.77	11.06	9.54	9.93	6.74	7.56	7.37
Repairs	5.36	4.97	5.10	5.72	6.47	7.23	7.80	7.18	7.77	7.49	6.56	6.17	6.52	6.41
Hired labor	2.10	2.23	2.49	2.50	2.68	2.88	3.00	3.02	3.21	3.15	2.43	2.54	2.53	2.99
Purchased irrigation water	0.14	0.14	0.16	0.18	0.25	0.29	0.30	0.38	0.33	0.35	0.25	0.22	0.20	0.20
Miscellaneous	0.12	0.12	0.12	0.12	0.14	0.20	0.11	0.44	0.38	0.40	0	0	0	0
Technical services	0	0	0	0	0	0	0.13	0.12	0.12	0.11	0.19	0.18	0.17	0.16
Total, variable cash expenses	32.59	30.82	28.83	30.19	37.01	46.76	55.29	56.03	56.77	55.01	51.10	45.67	44.24	46.31
General farm overhead	4.06	4.53	4.83	5.60	6.62	7.08	7.39	7.11	8.05	8.62	5.10	4.69	6.01	6.89
Taxes and insurance	4.21	4.39	4.93	5.34	5.95	7.33	9.74	6.90	7.69	7.44	7.44	7.92	8.11	8.19
Interest on operating loans	4.72	4.36	4.17	4.68	5.67	6.81	9.74	8.97	10.32	11.35	5.35	3.83	3.36	3.50
Interest on real estate	7.70	7.70	7.69	7.69	7.73	7.77	10.07	9.48	11.54	11.63	7.34	5.25	6.73	6.07
Total, fixed cash expenses	20.69	20.99	21.62	23.31	25.97	28.99	34.59	32.46	37.60	39.46	25.23	21.69	24.21	24.65
Total, cash expenses	53.28	51.81	50.45	53.50	62.97	75.75	89.88	88.49	94.37	94.47	76.33	67.36	68.45	70.96
Gross value of production less cash expenses	51.10	25.65	17.43	38.34	61.89	40.73	29.08	26.20	38.60	23.98	19.67	0.76	9.94	28.71
Harvest-period price (dollars/bu.)	3.53	2.70	2.31	2.94	3.74	3.76	3.63	3.38	3.48	3.37	2.98	2.29	2.39	3.50
Yield (bu./planted acre)	28.50	27.10	27.70	29.90	32.40	29.87	31.47	32.64	36.89	33.79	31.41	28.79	31.87	27.42

Appendix table 1A--U.S. wheat production economic costs and returns, 1975-88

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Dollars per planted acre														
Gross value of production (excluding direct Government payments):														
Wheat	100.49	73.27	63.92	87.95	121.30	112.41	114.35	110.32	128.52	113.97	93.52	66.06	76.21	95.89
Wheat straw	3.90	4.18	3.96	3.89	3.56	4.07	4.61	4.37	4.45	4.48	2.48	2.06	2.18	3.78
Total, gross value of production	104.39	77.46	67.88	91.84	124.86	116.48	118.96	114.69	132.97	118.45	96.00	68.12	78.39	99.67
Economic (full ownership) costs:														
Variable cash expenses	32.59	30.82	28.83	30.19	37.01	46.76	55.29	56.03	56.77	55.01	51.10	45.67	44.24	46.31
General farm overhead	4.06	4.53	4.83	5.60	6.62	7.08	7.39	7.11	8.05	8.62	5.10	4.69	6.01	6.89
Taxes and insurance	4.21	4.39	4.93	5.34	5.95	7.33	9.74	6.90	7.69	7.44	7.44	7.92	8.11	8.19
Capital replacement	10.46	11.73	12.49	14.64	16.87	18.15	19.30	19.41	21.02	20.48	19.63	19.90	20.33	20.67
Operating capital	1.21	1.01	0.96	1.22	1.95	2.83	3.91	3.09	2.51	2.72	2.11	1.38	1.46	1.78
Other nonland capital	2.97	3.12	2.97	3.25	3.68	3.64	3.26	3.46	3.19	3.84	3.66	3.66	3.69	4.33
Land	24.64	18.39	16.27	36.41	35.30	30.06	29.44	29.75	34.41	29.78	30.81	23.30	24.87	31.38
Unpaid labor	4.66	4.95	5.53	5.56	5.95	6.40	6.67	6.72	7.14	7.01	5.40	5.66	5.63	5.77
Total, economic (full ownership) costs	84.81	78.95	76.82	102.21	113.33	122.25	132.85	132.25	140.78	135.31	125.26	112.18	114.34	125.32
Residual returns to management and risk	19.58	-1.49	-8.94	-10.37	11.53	-5.77	-13.89	-17.56	-7.81	-16.86	-29.26	-44.06	-35.95	-25.65
Harvest-period price (dollars/bu.)	3.53	2.70	2.31	2.94	3.74	3.76	3.63	3.38	3.48	3.37	2.98	2.29	2.39	3.50
Yield (bu./planted acre)	28.50	27.10	27.70	29.90	32.40	29.87	31.47	32.64	36.89	33.79	31.41	28.79	31.87	27.42



Appendix table 2A--Wheat production cash costs and returns, Central Plains, 1975-88

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Dollars per planted acre														
Gross value of production (excluding direct Government payments):														
Wheat	88.61	65.93	57.29	84.87	123.85	111.36	88.50	104.95	130.40	111.90	98.30	63.54	76.85	103.71
Wheat straw	1.12	1.16	1.12	1.14	0.98	1.10	1.24	2.12	2.11	2.19	0.58	0.55	0.59	0.52
Total, gross value of production	89.73	67.09	58.41	86.01	124.82	112.46	89.74	107.07	132.51	114.09	98.88	64.09	77.44	104.23
Cash expenses:														
Seed	4.11	3.84	2.27	2.24	2.98	4.11	4.28	4.54	4.30	4.30	6.67	6.55	5.71	5.59
Fertilizer	6.40	6.21	5.62	4.68	5.73	8.29	9.38	10.12	10.14	9.99	7.75	7.45	7.45	7.58
Lime and gypsum	0	0	0	0	0	0	0	0.67	0.63	0.51	3.36	5.84	4.70	4.69
Chemicals	0.42	0.72	0.64	0.79	0.78	0.87	0.96	1.09	1.15	1.15	0.97	1.07	1.07	1.06
Custom operations	2.19	2.18	2.45	2.94	3.08	3.47	3.54	6.54	6.90	6.94	4.60	4.52	4.63	4.87
Fuel, lube, and electricity	3.55	3.47	3.88	4.59	7.12	9.97	11.38	10.72	9.99	8.45	7.51	6.83	5.98	5.87
Repairs	4.91	4.43	4.61	5.37	6.08	6.99	7.55	7.02	7.58	7.17	6.36	6.10	6.32	6.55
Hired labor	2.28	2.36	2.64	2.33	2.48	2.58	2.66	2.89	3.05	3.04	2.28	2.58	2.42	2.59
Purchased irrigation water	0	0	0	0	0	0	0	0.03	0.03	0.03	0.00	0	0	0
Miscellaneous	0.01	0.01	0.01	0.01	0.01	0.01	0	0.03	0.22	0.22	0.00	0	0	0
Technical services	0	0	0	0	0	0	0	0.06	0.06	0.07	0.07	0.06	0.06	0.06
Total, variable cash expenses	23.87	23.22	22.12	22.95	28.26	36.29	39.75	43.90	44.05	41.88	39.57	39.00	37.62	38.86
General farm overhead	4.48	4.77	5.27	5.08	6.10	7.18	5.84	6.19	8.79	9.04	5.31	3.69	6.10	7.52
Taxes and insurance	4.25	4.37	4.88	5.22	5.83	7.58	8.04	7.53	8.11	8.64	8.57	9.05	9.39	9.96
Interest on operating loans	4.99	4.62	4.48	4.95	6.01	7.21	8.08	7.97	12.48	13.08	5.99	3.26	3.30	3.88
Interest on real estate	6.77	6.77	6.76	6.76	6.79	6.83	7.78	10.44	12.64	11.63	7.26	4.33	7.36	6.85
Total, fixed cash expenses	20.50	20.53	21.33	22.01	24.73	28.80	29.74	32.13	42.02	42.39	27.13	20.33	26.15	28.21
Total, cash expenses	44.37	43.75	43.45	44.96	52.99	65.09	69.49	76.03	86.07	84.27	66.70	59.33	63.77	67.07
Gross value of production less cash expenses	45.36	23.34	14.96	41.05	71.08	47.37	20.25	31.04	46.44	29.82	32.18	4.76	13.67	37.16
Harvest-period price (dollars/bu.)	3.34	2.69	2.26	2.98	3.80	3.50	3.67	3.37	3.37	3.29	2.81	2.15	2.26	3.31
Yield (bu./planted acre)	26.50	24.50	25.40	28.50	32.60	31.79	24.09	31.13	38.73	34.02	35.01	29.55	34.06	31.33

Appendix table 2B--Wheat production economic costs and returns, Central Plains, 1975-88

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Dollars per planted acre														
Gross value of production (excluding direct Government payments):														
Wheat	88.61	65.93	57.29	84.87	123.85	111.36	88.50	104.95	130.40	111.90	98.30	63.54	76.85	103.71
Wheat straw	1.12	1.16	1.12	1.14	0.98	1.10	1.24	2.12	2.11	2.19	0.58	0.55	0.59	0.52
Total, gross value of production	89.73	67.09	58.41	86.01	124.82	112.46	89.74	107.07	132.51	114.09	98.88	64.09	77.44	104.23
Economic (full ownership) costs:														
Variable cash expenses	23.87	23.22	22.12	22.95	28.26	36.29	39.75	43.90	44.05	41.88	39.57	39.00	37.62	38.86
General farm overhead	4.48	4.77	5.27	5.08	6.10	7.18	5.84	6.19	8.79	9.04	5.31	3.69	6.10	7.52
Taxes and insurance	4.25	4.37	4.88	5.22	5.83	7.58	8.04	7.53	8.11	8.64	8.57	9.05	9.39	9.96
Capital replacement	10.25	11.47	11.93	13.81	15.76	17.62	18.81	18.95	20.33	19.74	18.46	18.66	19.19	20.08
Operating capital	1.03	0.89	0.82	1.09	1.78	2.59	3.49	2.85	2.22	2.36	1.96	1.37	1.44	1.71
Other nonland capital	2.99	3.13	2.91	3.15	3.53	3.57	3.46	3.22	3.15	3.72	3.54	3.56	3.63	4.39
Land	25.76	18.44	15.55	21.95	34.90	29.31	20.87	28.98	36.52	30.13	24.10	15.51	18.70	25.60
Unpaid labor	5.06	5.25	5.86	5.18	5.52	5.74	5.90	6.41	6.79	6.76	5.09	5.74	5.39	5.77
Subtotal	77.70	71.54	69.34	78.40	101.68	109.88	106.16	118.03	129.96	122.26	106.60	96.58	101.46	113.89
Residual, returns to management and risk	12.03	-4.45	-10.93	7.61	23.15	2.58	-16.42	-10.96	2.55	-8.17	-7.72	-32.49	-24.02	-9.66
Harvest-period price (dollars/bu.)	3.34	2.69	2.26	2.98	3.80	3.50	3.67	3.37	3.37	3.29	2.81	2.15	2.26	3.31
Yield (bu./planted acre)	26.50	24.50	25.40	28.50	32.60	31.79	24.09	31.13	38.73	34.02	35.01	29.55	34.06	31.33

Appendix table 3A--Wheat production cash costs and returns, North-Central, 1975-88

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Dollars per planted acre														
Gross value of production (excluding direct Government payments):														
Wheat	126.47	97.41	92.85	109.30	166.40	169.84	145.71	112.96	142.00	131.91	127.95	69.28	113.55	160.21
Wheat straw	27.10	29.25	30.77	24.98	17.28	16.20	17.58	12.97	13.36	13.24	16.65	13.52	16.75	28.59
Total, gross value of production	153.56	126.66	123.63	134.28	183.68	186.04	163.29	125.93	155.36	145.15	144.60	82.80	130.30	188.80
Cash expenses:														
Seed	10.66	9.05	6.07	5.71	8.52	10.72	10.69	9.31	9.09	10.91	12.27	11.86	10.40	10.59
Fertilizer	26.61	20.94	22.63	18.92	22.80	33.98	36.38	30.03	37.25	40.45	26.61	25.01	23.74	28.55
Lime and gypsum	0.62	0.66	0.71	0.72	0.83	0.98	1.07	2.11	2.19	2.52	0.36	0.39	0.35	0.32
Chemicals	0.40	0.30	0.27	0.34	0.32	0.34	0.37	0.43	0.47	0.41	1.36	1.47	1.46	1.39
Custom operations	2.03	2.09	2.58	2.46	2.67	2.99	3.11	5.30	5.47	5.54	1.75	1.75	1.83	1.91
Fuel, lube, and electricity	4.01	4.06	4.98	4.68	7.16	10.18	11.30	10.67	10.11	8.07	8.49	4.85	6.54	6.38
Repairs	5.01	4.68	5.35	4.95	5.64	6.38	6.86	5.64	6.35	5.88	5.63	4.57	5.41	5.93
Hired labor	1.64	1.79	1.99	3.01	3.33	3.62	3.98	3.60	3.64	3.53	3.13	2.97	3.39	3.61
Technical services	1.02	1.00	1.00	1.04	1.04	1.36	0.71	1.00	1.00	1.01	0.04	0.04	0.02	0.04
Total, variable cash expenses	52.02	44.57	45.99	41.83	52.31	70.55	74.47	68.08	75.57	78.31	59.63	52.91	53.14	58.72
General farm overhead	4.57	5.21	5.56	6.09	7.33	8.71	7.58	5.56	7.57	7.48	5.36	3.96	7.78	11.33
Taxes and insurance	4.00	4.28	4.77	5.31	6.00	11.82	10.97	11.88	13.14	12.58	11.70	12.07	12.74	12.49
Interest on operating loans	5.31	4.91	4.69	5.26	6.38	7.66	8.99	6.43	9.80	10.29	6.46	5.31	4.52	5.40
Interest on real estate	10.96	10.96	10.94	10.94	10.99	11.05	11.83	10.02	15.35	14.84	10.63	6.52	9.79	13.25
Total, fixed cash expenses	24.83	25.36	25.96	27.60	30.70	39.24	39.37	33.89	45.86	45.19	34.15	25.86	34.83	42.47
Total, cash expenses	76.85	69.93	71.95	69.43	83.01	109.79	113.84	101.97	121.43	123.50	93.78	78.77	87.97	101.19
Gross value of production less cash expenses	76.71	56.73	52.08	64.85	100.67	76.25	49.45	23.96	33.93	21.65	50.82	4.03	42.33	87.61
Harvest-period price (dollars/bu.)	3.39	2.73	2.29	3.02	3.85	3.80	3.42	3.14	3.28	3.26	2.89	2.29	2.37	3.42
Yield (bu./planted acre)	37.30	35.70	40.60	36.20	43.20	44.73	42.55	35.97	43.30	40.44	44.34	30.29	47.96	46.86

Appendix table 3B--Wheat production economic costs and returns, North-Central, 1975-88

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Dollars per planted acre														
Gross value of production (excluding direct Government payments):														
Wheat	126.47	97.41	92.85	109.30	166.40	169.84	145.71	112.96	142.00	131.91	127.95	69.28	113.55	160.21
Wheat straw	27.10	29.25	30.77	24.98	17.28	16.20	17.58	12.97	13.36	13.24	16.65	13.52	16.75	28.59
Total, gross value of production	153.56	126.66	123.63	134.28	183.68	186.04	163.29	125.93	155.36	145.15	144.60	82.80	130.30	188.80
Economic (full ownership) costs:														
Variable cash expenses	52.02	44.57	45.99	41.83	52.31	70.55	74.47	68.08	75.57	78.31	59.63	52.91	53.14	58.72
General farm overhead	4.57	5.21	5.56	6.09	7.33	8.71	7.58	5.56	7.57	7.48	5.36	3.96	7.78	11.33
Taxes and insurance	4.00	4.28	4.77	5.31	6.00	11.82	10.97	11.88	13.14	12.58	11.70	12.07	12.74	12.49
Capital replacement	9.53	10.66	11.40	14.56	16.67	17.69	18.53	20.27	22.44	22.12	22.63	19.37	21.96	24.14
Operating capital	2.24	1.67	1.55	1.77	2.85	4.29	5.52	4.01	3.60	4.21	3.12	2.12	2.29	2.86
Other nonland capital	2.80	2.93	2.79	3.34	3.75	3.61	3.45	3.65	3.69	4.43	4.24	3.61	4.10	5.22
Land	37.10	28.25	26.96	35.68	57.10	47.53	37.58	29.84	35.91	32.21	50.43	29.26	44.23	63.65
Unpaid labor	3.66	3.98	4.41	6.70	7.40	8.05	8.85	7.99	8.09	7.85	6.95	6.82	7.53	8.03
Subtotal	115.90	101.56	103.02	115.28	153.42	172.25	166.95	151.28	170.01	169.18	164.07	129.92	153.77	186.44
Residual returns to management and risk	37.66	25.10	20.61	19.00	30.26	13.79	3.66	-25.35	-14.65	-24.03	-19.47	-47.12	-23.47	2.36
Harvest-period price (dollars/bu.)	3.39	2.73	2.29	3.02	3.85	3.80	3.42	3.14	3.28	3.26	2.89	2.29	2.37	3.42
Yield (bu./planted acre)	37.30	35.70	40.60	36.20	43.20	44.73	42.55	35.97	43.30	40.44	44.34	30.29	47.96	46.86



Appendix table 44--Wheat production cash costs and returns, Northeast, 1975-88

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Dollars per planted acre														
Gross value of production (excluding direct Government payments):														
Wheat	115.13	83.83	76.51	99.48	129.63	151.68	122.08	116.91	133.15	129.91	146.17	117.68	104.50	184.32
Wheat straw	61.20	62.45	62.91	56.40	42.29	42.51	66.56	61.26	59.31	72.14	83.88	82.74	95.48	101.13
Total, gross value of production	176.33	146.28	139.41	155.87	171.92	194.19	188.64	178.17	192.46	202.05	230.05	200.42	199.98	285.45
Cash expenses:														
Seed	11.03	9.45	7.25	7.37	9.89	12.16	13.98	12.52	12.13	15.03	18.78	15.20	18.03	14.72
Fertilizer	26.60	23.54	24.78	23.02	25.12	37.31	41.19	35.44	25.81	23.34	33.64	29.55	26.73	32.88
Lime and gypsum	0	1.92	1.94	2.42	2.50	2.79	3.06	5.96	5.36	8.19	10.96	10.68	10.40	9.92
Chemicals	0.05	0.05	0.09	0.10	0.10	0.11	0.12	0.86	1.00	0.33	5.74	5.70	6.27	6.14
Custom operations	3.76	3.65	4.31	4.54	4.67	5.28	5.62	5.28	5.41	5.60	4.38	4.38	4.57	5.19
Fuel, lube, and electricity	5.20	4.98	5.84	6.06	8.87	12.43	14.47	15.47	14.23	12.93	11.46	7.75	8.04	8.61
Repairs	6.60	5.83	6.57	6.52	6.77	7.81	8.67	9.63	10.21	9.94	7.75	7.38	7.38	8.03
Hired labor	2.59	2.73	3.04	4.34	4.43	4.92	5.31	6.19	5.95	7.08	3.71	4.03	3.93	4.66
Miscellaneous	1.04	1.02	1.02	1.06	1.15	1.88	1.94	2.05	2.06	2.10	0	0	0	0
Technical services	0	0	0	0	0	0	0	0.14	0.16	0.14	0	0	0	0
Total, variable cash expenses	56.87	53.22	54.64	55.43	63.50	84.69	94.36	93.56	82.52	84.68	96.42	84.67	85.35	90.15
General farm overhead	4.58	5.23	5.58	9.48	13.71	19.37	10.59	6.64	12.40	12.19	17.62	29.92	25.92	33.97
Taxes and insurance	4.01	4.34	4.88	5.62	6.18	13.87	15.31	18.37	19.17	21.05	20.81	22.07	22.70	24.12
Interest on operating loans	4.89	4.52	4.32	4.84	5.87	7.05	5.39	6.24	6.23	9.00	9.36	4.41	9.76	8.51
Interest on real estate	20.72	20.71	20.68	20.77	20.67	20.89	11.05	12.44	9.34	9.04	21.14	21.14	20.16	15.93
Total, fixed cash expenses	34.19	34.80	35.46	40.61	46.53	61.18	42.34	43.69	47.14	51.28	67.94	77.54	78.54	82.53
Total, cash expenses	91.06	88.02	90.10	96.04	110.03	145.87	136.70	137.25	129.66	135.96	164.36	162.21	163.89	172.68
Gross value of production less cash expenses	85.27	58.26	49.31	59.83	61.89	48.32	51.94	40.92	62.80	66.09	65.69	38.21	36.09	112.77
Harvest-period price (dollars/bu.)	3.43	2.76	2.31	3.05	3.89	3.97	3.28	3.26	3.38	3.56	2.96	2.69	2.50	3.56
Yield (bu./planted acre)	33.60	30.40	33.10	32.60	33.30	38.18	37.24	35.91	39.37	36.46	49.31	43.74	41.84	51.71

Appendix table 48--Wheat production economic costs and returns, Northeast, 1975-88

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Dollars per planted acre														
Gross value of production (excluding direct Government payments):														
Wheat	115.13	83.83	76.51	99.48	129.63	151.68	122.08	116.91	133.15	129.91	146.17	117.68	104.50	184.32
Wheat straw	61.20	62.45	62.91	56.40	42.29	42.51	66.56	61.26	59.31	72.14	83.88	82.74	95.48	101.13
Total, gross value of production	176.33	146.28	139.41	155.87	171.92	194.19	188.64	178.17	192.46	202.05	230.05	200.42	199.98	285.45
Economic (full ownership) costs:														
Variable cash expenses	56.87	53.22	54.64	55.43	63.50	84.69	94.36	93.56	82.52	84.68	96.42	84.67	85.35	90.15
General farm overhead	4.58	5.23	5.58	9.48	13.71	19.37	10.59	6.64	12.40	12.19	17.62	29.92	25.92	33.97
Taxes and insurance	4.01	4.34	4.88	5.62	6.18	13.87	15.31	18.37	19.17	21.05	20.81	22.07	22.70	24.12
Capital replacement	10.17	11.64	12.66	16.01	17.21	19.16	20.71	29.90	32.00	34.02	30.48	30.77	30.56	32.84
Operating capital	2.10	1.66	1.99	2.57	3.94	6.02	8.12	5.86	4.50	5.07	5.43	3.40	3.80	4.59
Other nonland capital	3.08	3.30	3.21	3.79	4.00	4.04	3.98	5.86	5.63	7.55	5.73	5.77	5.65	7.10
Land	7.85	10.68	13.63	21.20	22.11	17.08	17.25	19.82	20.70	22.88	33.57	26.94	30.53	36.69
Unpaid labor	5.74	6.07	7.56	9.66	9.85	10.94	11.79	13.75	13.21	15.73	8.26	8.86	8.76	10.36
Subtotal	94.99	96.14	103.53	123.76	140.49	175.17	182.11	194.33	190.13	203.17	218.32	212.40	213.27	239.82
Residual returns to management and risk	81.94	50.14	36.06	32.12	31.43	19.02	6.53	-16.16	2.33	-1.12	11.73	-11.98	-13.29	45.63
Harvest-period price (dollars/bu.)	3.43	2.76	2.31	3.05	3.89	3.97	3.28	3.26	3.38	3.56	2.96	2.69	2.50	3.56
Yield (bu./planted acre)	33.60	30.40	33.10	32.60	33.30	38.18	37.24	35.91	39.37	36.46	49.31	43.74	41.84	51.71

Appendix table 5A--Wheat production cash costs and returns, Northern Plains, 1975-88

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Dollars per planted acre														
Gross value of production (excluding direct Government payments):														
Wheat	96.32	66.46	65.41	82.08	92.31	73.40	105.23	109.72	108.35	118.11	86.36	67.61	75.46	47.99
Wheat straw	0	0	0	0	0	0	0	0.89	0.91	0.90	1.95	1.41	1.55	2.77
Total, gross value of production	96.32	66.46	65.41	82.08	92.31	73.40	105.23	110.61	109.26	119.01	88.31	69.02	77.01	50.76
Cash expenses:														
Seed	7.66	6.85	5.02	5.35	5.40	6.70	7.86	7.33	7.10	7.50	6.86	6.62	5.82	6.19
Fertilizer	8.26	7.95	6.32	7.52	8.25	8.84	9.70	10.55	12.38	11.15	11.97	10.30	9.58	10.87
Chemicals	2.04	1.17	1.01	3.05	3.04	3.36	3.65	3.39	5.81	5.61	4.40	4.39	4.29	4.35
Custom operations	0.81	0.90	1.05	1.19	1.39	1.36	1.50	1.89	1.95	2.04	3.24	3.46	3.57	2.21
Fuel, lube, and electricity	3.11	3.37	3.91	4.38	6.51	8.82	10.76	9.26	8.86	7.55	6.63	4.13	5.10	4.57
Repairs	4.69	4.69	5.07	5.60	6.47	6.84	6.69	6.69	7.18	7.29	5.74	5.74	5.83	5.27
Hired labor	1.87	2.09	2.29	2.18	2.20	2.23	2.64	2.44	2.65	2.77	1.80	2.00	1.93	1.77
Purchased irrigation water	0.02	0.02	0.03	0.03	0.01	0.01	0.01	0.23	0.23	0.23	0	0	0	0
Miscellaneous	0	0	0	0	0	0	0	0.21	0.21	0.21	0.04	0.04	0.04	0
Technical services	0	0	0	0	0	0	0	0.24	0.25	0.23	0.04	0.04	0.04	0.04
Total, variable cash expenses	28.46	27.04	24.70	29.30	33.27	38.16	44.61	44.23	46.62	44.58	40.73	36.68	36.16	35.27
General farm overhead	3.74	4.42	4.55	4.52	5.68	4.64	7.39	6.99	7.36	11.53	4.27	4.22	6.24	3.83
Taxes and insurance	4.22	4.40	4.98	5.35	6.04	6.32	6.95	6.74	7.22	8.03	6.63	7.26	7.43	6.78
Interest on operating loans	3.24	2.99	2.86	3.21	3.89	4.67	10.04	8.99	10.26	15.82	5.26	3.68	3.37	2.00
Interest on real estate	4.38	4.38	4.38	4.37	4.40	4.42	11.04	10.62	10.33	16.99	6.85	5.11	7.69	3.82
Total, fixed cash expenses	15.58	16.19	16.77	17.45	20.00	20.05	35.42	33.34	35.17	52.37	23.01	20.27	24.73	16.43
Total, cash expenses	44.04	43.23	41.47	46.75	53.27	58.21	80.03	77.57	81.79	96.95	63.74	56.95	60.89	51.70
Gross value of production less cash expenses	52.28	23.23	23.94	35.33	39.04	15.19	25.20	33.04	27.47	22.06	24.57	12.07	16.12	-0.94
Harvest-period price (dollars/bu.)	3.98	2.68	2.45	2.89	3.62	3.97	3.69	3.46	3.77	3.54	3.03	2.28	2.45	3.82
Yield (bu./planted acre)	24.20	24.80	26.70	28.40	25.50	18.51	28.51	31.68	28.76	33.36	28.49	29.69	30.81	12.56

Appendix table 5B--Wheat production economic costs and returns, Northern Plains, 1975-88

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Dollars per planted acre														
Gross value of production (excluding direct Government payments):														
Wheat	96.32	66.46	65.41	82.08	92.31	73.40	105.23	109.72	108.35	118.11	86.36	67.61	75.46	47.99
Wheat straw	0	0	0	0	0	0	0	0.89	0.91	0.90	1.95	1.41	1.55	2.77
Total, gross value of production	96.32	66.46	65.41	82.08	92.31	73.40	105.23	110.61	109.26	119.01	88.31	69.02	77.01	50.76
Economic (full ownership) costs:														
Variable cash expenses	28.46	27.04	24.70	29.30	33.27	38.16	44.61	44.23	46.62	44.58	40.73	36.68	36.16	35.27
General farm overhead	3.74	4.42	4.55	4.52	5.68	4.64	7.39	6.99	7.36	11.53	4.27	4.22	6.24	3.83
Taxes and insurance	4.22	4.40	4.98	5.35	6.04	6.32	6.95	6.74	7.22	8.03	6.63	7.26	7.43	6.78
Capital replacement	10.84	11.54	12.67	14.69	16.96	17.09	20.95	20.29	21.59	22.42	19.77	21.42	21.79	20.06
Operating capital	0.71	0.62	0.58	0.75	1.13	1.51	2.03	1.50	1.27	1.37	0.90	0.56	0.61	0.74
Other nonland capital	3.18	3.17	3.11	3.57	3.82	3.47	3.90	3.51	3.55	4.35	3.70	3.96	3.95	4.08
Land	21.96	17.95	19.03	27.15	31.01	26.89	34.88	34.88	34.07	35.99	30.96	28.61	27.81	24.60
Unpaid labor	4.17	4.65	5.09	4.85	4.89	4.95	5.87	5.43	5.90	6.14	4.02	4.44	4.29	3.95
Subtotal	77.29	73.78	74.71	89.98	102.80	103.03	126.31	123.56	127.38	134.02	110.98	107.15	108.28	99.31
Residual returns to management and risk	19.03	-7.32	-9.29	-7.91	-10.49	-29.63	-21.08	-12.95	-18.12	-15.01	-22.67	-38.13	-31.27	-48.55
Harvest-period price (dollars/bu.)	3.98	2.68	2.45	2.89	3.62	3.97	3.69	3.46	3.77	3.54	3.03	2.28	2.45	3.82
Yield (bu./planted acre)	24.20	24.80	26.70	28.40	25.50	18.51	28.51	31.68	28.76	33.36	28.49	29.69	30.81	12.56



Appendix table 6A--Wheat production cash costs and returns, Northwest, 1975-88

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Dollars per planted acre														
Gross value of production (excluding direct Government payments)														
Wheat	185.72	159.75	90.35	124.03	145.20	194.77	212.09	192.05	231.23	187.59	146.65	122.12	152.33	226.99
Wheat straw	0	0	0	0	0	0	0	2.43	2.32	1.97	0.94	0.89	0.82	1.08
Total, gross value of production	185.72	159.75	90.35	124.03	145.20	194.77	212.09	194.48	233.55	189.56	147.59	123.01	153.15	228.07
Cash expenses:														
Seed	6.55	5.50	5.06	4.25	6.21	7.37	6.72	6.58	6.61	7.08	9.36	8.83	8.29	8.35
Fertilizer	22.71	15.42	14.08	13.42	14.16	18.72	23.24	25.81	27.40	25.39	22.61	20.15	19.20	19.66
Lime and gypsum	0.36	0.43	0	0	0	0	0	0	0	0	0	0	0	0
Chemicals	4.24	5.33	4.80	6.11	6.10	6.48	7.20	9.97	10.38	11.30	10.03	10.07	9.84	9.95
Custom operations	1.94	2.03	1.60	2.39	2.67	2.97	3.21	3.80	3.76	3.51	2.69	2.73	2.80	2.98
Fuel, tube, and electricity	4.80	4.94	3.85	5.69	8.56	12.24	13.53	14.26	13.91	12.16	14.43	11.94	13.10	13.01
Repairs	7.13	6.77	4.91	7.16	8.12	9.54	10.05	11.51	12.37	12.11	10.71	10.32	10.90	11.30
Hired labor	2.54	2.53	2.75	2.66	2.88	3.17	3.34	4.16	4.58	4.31	3.23	3.43	3.78	3.76
Purchased irrigation water	0.72	0.75	0.59	0.88	1.58	1.82	1.82	1.70	1.71	1.74	1.91	1.85	1.90	1.91
Miscellaneous	0.10	0.10	0.10	0.10	0.11	0.13	0.00	0.37	0.37	0.38	0.35	0	0	0
Technical services	0	0	0	0	0	0	0	0.16	0.16	0.16	0.34	0.34	0.34	0.34
Total, variable cash expenses	51.09	43.80	37.74	42.66	50.39	62.44	69.11	78.32	81.25	78.14	75.32	69.66	70.15	71.26
General farm overhead	7.40	5.96	6.35	12.69	14.12	12.74	14.59	19.44	14.80	14.67	11.02	10.77	13.31	17.38
Taxes and insurance	4.52	4.88	5.43	6.21	6.72	11.64	12.50	10.43	11.30	12.93	10.12	10.76	11.30	11.28
Interest on operating loans	9.19	8.50	8.13	9.11	11.05	13.27	17.52	19.74	15.09	14.59	8.53	7.85	5.86	7.87
Interest on real estate	17.78	17.78	17.75	17.74	17.83	17.93	18.43	13.62	19.00	17.31	16.95	12.72	13.36	13.72
Total, fixed cash expenses	38.89	37.12	37.66	45.76	49.71	55.58	63.04	63.23	60.19	59.50	46.62	42.10	43.83	50.25
Total, cash expenses	89.98	80.92	75.40	88.42	100.10	118.02	132.15	141.55	141.44	137.64	121.94	111.76	113.98	121.51
Gross value of production less cash expenses	95.74	78.83	14.95	35.61	45.10	76.75	79.94	52.93	92.11	51.92	25.65	11.25	39.17	106.56
Harvest-period price (dollars/bu.)	4.02	3.55	2.78	2.72	3.30	3.68	3.84	3.75	3.75	3.40	3.14	2.41	2.50	3.74
Yield (bu./planted acre)	46.20	45.00	32.50	45.60	44.00	52.90	55.22	51.18	61.72	55.21	46.69	50.69	60.82	60.70

Appendix table 6B--Wheat production economic costs and returns, Northwest, 1975-88

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Dollars per planted acre														
Gross value of production (excluding direct Government payments)														
Wheat	185.72	159.75	90.35	124.03	145.20	194.77	212.09	192.05	231.23	187.59	146.65	122.12	152.33	226.99
Wheat straw	0	0	0	0	0	0	0	2.43	2.32	1.97	0.94	0.89	0.82	1.08
Total, gross value of production	185.72	159.75	90.35	124.03	145.20	194.77	212.09	194.48	233.55	189.56	147.59	123.01	153.15	228.07
Economic (full ownership) costs:														
Variable cash expenses	51.09	43.80	37.74	42.66	50.39	62.44	69.11	78.32	81.25	78.14	75.32	69.66	70.15	71.26
General farm overhead	7.40	5.96	6.35	12.69	14.12	12.74	14.59	19.44	14.80	14.67	11.02	10.77	13.31	17.38
Taxes and insurance	4.52	4.88	5.43	6.21	6.72	11.64	12.50	10.43	11.30	12.93	10.12	10.76	11.30	11.28
Capital replacement	13.71	17.00	17.57	19.68	23.63	26.46	25.73	25.10	26.65	27.57	26.10	26.39	27.87	28.37
Operating capital	2.23	1.65	1.69	2.01	2.82	3.93	5.38	4.67	3.79	3.97	3.86	2.56	2.83	3.29
Other nonland capital	3.92	4.55	4.15	4.39	5.18	5.20	4.68	4.21	4.05	5.10	4.76	4.86	5.08	6.06
Land	46.24	39.65	21.88	47.32	38.82	40.20	47.79	47.54	59.27	45.96	52.47	43.72	50.65	73.16
Unpaid labor	5.63	5.63	6.12	5.90	6.39	5.90	6.39	9.24	7.18	9.58	7.62	8.41	8.41	8.38
Subtotal	134.73	123.12	100.71	140.87	148.07	169.64	187.20	198.95	211.29	197.92	190.83	176.34	189.60	219.18
Residual returns to management and risk	50.99	36.63	-10.36	-16.83	-2.87	25.13	24.89	-4.47	22.26	-8.36	-43.24	-53.33	-36.45	8.89
Harvest-period price (dollars/bu.)	4.02	3.55	2.78	2.72	3.30	3.68	3.84	3.75	3.75	3.40	3.14	2.41	2.50	3.74
Yield (bu./planted acre)	46.20	45.00	32.50	45.60	44.00	52.90	55.22	51.18	61.72	55.21	46.69	50.69	60.82	60.70

Appendix table 7A--wheat production cash costs and returns, Southeast, 1975-88

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Dollars per planted acre														
Gross value of production (excluding direct Government payments):														
Wheat	86.89	89.44	70.66	94.48	123.21	124.90	135.87	105.33	105.57	117.61	79.45	67.63	79.56	143.09
Wheat straw	16.03	23.12	20.16	18.59	13.52	18.36	3.18	1.52	1.60	1.48	1.83	1.37	1.48	1.54
Total, gross value of production	102.92	112.56	90.81	113.06	136.73	143.26	139.05	106.85	107.17	119.09	81.28	69.00	81.04	144.63
Cash expenses:														
Seed	9.83	8.56	6.73	6.85	8.65	11.18	11.78	10.16	9.68	11.20	11.75	10.61	10.00	10.97
Fertilizer	30.58	22.24	23.72	23.20	24.72	31.08	36.58	33.39	32.33	33.82	32.40	28.79	28.84	32.82
Lime and gypsum	2.85	1.70	1.60	2.69	2.73	2.40	2.65	2.31	2.32	2.42	1.22	0.99	0.93	0.84
Chemicals	0.44	0.28	0.26	0.88	0.95	0.94	2.57	2.75	2.87	2.96	1.95	1.83	1.70	1.75
Custom operations	1.84	2.33	2.59	2.80	3.02	3.54	6.58	7.22	7.23	7.25	4.23	3.32	3.10	4.28
Fuel, lube, and electricity	3.49	4.72	4.80	5.12	7.12	11.00	11.04	10.14	8.99	7.43	7.70	4.55	5.83	5.83
Repairs	4.20	5.24	4.96	5.22	5.40	6.42	6.02	6.02	6.27	6.45	6.30	5.69	5.96	6.65
Hired labor	2.18	2.15	2.41	3.08	3.21	3.62	3.12	2.97	3.04	3.04	2.60	2.59	2.71	2.89
Miscellaneous	0.46	0.45	0.45	0.47	0.47	0.79	0.21	0.86	0.86	0.87	0	0	0	0
Technical services	0	0	0	0	0	0	0	0.12	0.12	0.13	0.01	0.01	0.01	0.01
Total, variable cash expenses	55.87	47.87	47.52	50.31	56.27	70.97	81.31	75.94	73.71	75.57	68.16	58.38	57.08	66.04
General farm overhead	3.49	4.00	4.27	7.13	6.88	7.42	6.66	4.89	4.98	5.10	3.39	4.01	4.63	8.08
Taxes and insurance	4.14	4.29	4.76	5.24	5.70	4.09	3.71	3.82	4.09	4.38	7.32	7.30	7.56	7.97
Interest on operating loans	5.22	4.82	4.61	5.17	6.27	7.53	10.33	9.08	5.83	6.74	3.11	3.44	3.11	3.48
Interest on real estate	9.72	9.72	9.70	9.70	9.74	9.80	9.13	8.16	7.91	7.76	5.72	4.11	4.22	4.46
Total, fixed cash expenses	22.57	22.83	23.34	27.24	28.59	28.84	29.83	25.95	22.81	23.98	19.54	18.86	19.52	25.99
Total, cash expenses	78.44	70.70	70.86	77.55	84.86	99.81	111.14	101.89	96.52	99.55	87.69	77.24	76.60	92.03
Gross value of production less cash expenses	24.48	41.86	19.95	35.51	51.87	43.45	27.91	4.96	10.65	19.54	-6.41	-8.24	4.44	52.60
Harvest-period price (dollars/bu.)	3.37	2.71	2.27	3.00	3.83	3.75	3.45	3.09	3.26	3.23	2.97	2.47	2.47	3.36
Yield (bu./planted acre)	25.80	33.00	31.10	31.50	32.20	33.33	39.40	34.09	32.38	36.46	26.79	27.33	32.19	42.61

Appendix table 7B--wheat production economic costs and returns, Southeast, 1975-88

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Dollars per planted acre														
Gross value of production (excluding direct Government payments):														
Wheat	86.89	89.44	70.66	94.48	123.21	124.90	135.87	105.33	105.57	117.61	79.45	67.63	79.56	143.09
Wheat straw	16.03	23.12	20.16	18.59	13.52	18.36	3.18	1.52	1.60	1.48	1.83	1.37	1.48	1.54
Total, gross value of production	102.92	112.56	90.81	113.06	136.73	143.26	139.05	106.85	107.17	119.09	81.28	69.00	81.04	144.63
Economic (full ownership) costs:														
Variable cash expenses	55.87	47.87	47.52	50.31	56.27	70.97	81.31	75.94	73.71	75.57	68.16	58.38	57.08	66.04
General farm overhead	3.49	4.00	4.27	7.13	6.88	7.42	6.66	4.89	4.98	5.10	3.39	4.01	4.63	8.08
Taxes and insurance	4.14	4.29	4.76	5.24	5.70	4.09	3.71	3.82	4.09	4.38	7.32	7.30	7.56	7.97
Capital replacement	9.78	10.45	11.01	14.20	15.07	17.11	16.81	17.53	18.47	18.39	17.60	18.24	18.97	20.76
Operating capital	2.20	1.52	1.65	2.05	3.01	4.08	5.93	4.42	3.38	3.94	3.04	1.90	2.05	2.65
Other nonland capital	2.57	2.57	2.42	2.92	3.04	3.37	2.75	2.67	2.53	3.19	3.10	3.07	3.16	4.08
Land	17.54	17.17	14.23	21.09	26.65	23.74	24.94	21.66	21.18	22.81	21.13	20.54	20.13	27.53
Unpaid labor	4.86	4.78	5.37	6.86	7.14	8.03	6.94	7.10	6.74	6.74	5.77	5.77	6.02	6.42
Subtotal	100.46	92.66	91.23	109.79	123.76	138.81	149.05	137.52	135.08	140.12	129.51	119.21	119.60	143.53
Residual returns to management and risk	2.46	19.90	-0.42	3.27	12.97	4.45	-10.00	-30.67	-27.91	-21.03	-48.23	-50.21	-38.56	1.10
Harvest-period price (dollars/bu.)	3.37	2.71	2.27	3.00	3.83	3.75	3.45	3.09	3.26	3.23	2.97	2.47	2.47	3.36
Yield (bu./planted acre)	25.80	33.00	31.10	31.50	32.20	33.33	39.40	34.09	32.38	36.46	26.79	27.33	32.19	42.61



Appendix table 8A--Wheat production cash costs and returns, Southern Plains, 1975-88

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Dollars per planted acre														
Gross value of production (excluding direct Government payments):														
Wheat	70.92	50.27	51.71	62.85	122.00	87.23	86.35	83.93	102.60	80.04	65.97	39.45	38.17	65.37
Wheat straw and grazing 1/	5.75	5.71	6.48	5.43	5.41	5.42	9.62	9.51	9.51	9.35	0.10	0.09	0.12	0.11
Total, gross value of production	76.66	55.99	58.19	68.29	127.41	92.65	95.97	93.44	112.11	89.39	66.07	39.54	38.29	65.48
Cash expenses:														
Seed	4.76	4.64	2.79	3.02	4.20	5.39	5.54	5.30	5.02	4.08	5.40	5.73	5.61	4.66
Fertilizer	7.68	9.78	8.19	6.20	8.38	12.45	15.58	15.00	12.20	15.52	13.44	11.87	10.25	11.95
Chemicals	0.27	1.34	1.22	1.62	1.64	1.75	1.74	1.86	1.94	1.98	5.77	5.88	5.43	5.44
Custom operations	2.30	2.18	2.90	2.85	3.64	3.95	7.70	8.07	8.43	7.84	4.29	4.11	3.89	4.33
Fuel, lube, and electricity	5.31	4.95	6.55	6.35	9.58	12.88	14.60	14.75	14.30	12.62	14.53	10.71	10.99	11.28
Repairs	5.64	4.85	5.97	5.71	6.61	7.38	6.97	7.27	7.92	7.36	6.45	5.90	5.86	6.30
Hired labor	1.99	2.12	2.50	2.63	2.86	3.10	2.77	2.92	3.01	3.02	2.51	2.49	2.55	2.62
Miscellaneous	0.06	0.06	0.06	0.06	0.06	0.07	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Technical services	0	0	0	0	0	0	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Total, variable cash expenses	28.01	29.92	30.18	28.44	36.97	46.97	54.91	55.18	52.86	52.43	52.86	47.17	45.03	47.00
General farm overhead	2.65	2.82	3.01	4.30	4.37	5.95	5.63	4.91	4.80	5.00	3.38	3.58	2.55	4.12
Taxes and insurance	4.15	4.22	4.79	4.96	5.56	4.33	3.97	3.85	4.08	4.16	4.85	4.92	5.03	5.16
Interest on operating loans	3.53	3.26	3.12	3.49	4.24	5.09	7.93	6.70	6.19	6.23	3.71	3.09	2.17	2.84
Interest on real estate	5.22	5.22	5.21	5.21	5.23	5.26	5.70	5.12	5.39	4.61	2.78	2.82	2.14	2.76
Total, fixed cash expenses	15.55	15.52	16.12	17.96	19.39	20.63	23.23	20.58	20.46	20.00	14.72	14.41	11.89	14.88
Total, cash expenses	43.56	45.44	46.30	46.40	56.36	67.60	78.14	75.76	73.30	72.43	67.57	61.58	56.92	61.88
Gross value of production less cash expenses	33.10	10.55	11.89	21.89	71.05	25.05	17.83	17.68	38.81	16.96	-1.50	-22.04	-18.63	3.60
Harvest-period price (dollars/bu.)	3.38	2.72	2.28	3.01	3.84	3.56	3.72	3.45	3.32	3.36	2.94	2.28	2.32	3.35
Yield (bu./planted acre)	21.00	18.50	22.70	20.90	31.80	24.51	23.18	24.36	30.92	23.80	22.41	17.30	16.46	19.49

Appendix table 8B--Wheat production economic costs and returns, Southern Plains, 1975-88

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Dollars per planted acre														
Gross value of production (excluding direct Government payments):														
Wheat	70.92	50.27	51.71	62.85	122.00	87.23	86.35	83.93	102.60	80.04	65.97	39.45	38.17	65.37
Wheat straw and grazing 1/	5.75	5.71	6.48	5.43	5.41	5.42	9.62	9.51	9.51	9.35	0.10	0.09	0.12	0.11
Total, gross value of production	76.66	55.99	58.19	68.29	127.41	92.65	95.97	93.44	112.11	89.39	66.07	39.54	38.29	65.48
Economic (full ownership) costs:														
Variable cash expenses	28.01	29.92	30.18	28.44	36.97	46.97	54.91	55.18	52.86	52.43	52.86	47.17	45.03	47.00
General farm overhead	2.65	2.82	3.01	4.30	4.37	5.95	5.63	4.91	4.80	5.00	3.38	3.58	2.55	4.12
Taxes and insurance	4.15	4.22	4.79	4.96	5.56	4.33	3.97	3.85	4.08	4.16	4.85	4.92	5.03	5.16
Capital replacement	9.60	10.81	11.98	12.38	14.82	16.44	15.61	16.33	17.87	16.14	17.58	17.30	17.03	18.14
Operating capital	0.97	0.98	0.91	1.29	2.19	3.28	3.92	3.14	2.34	2.61	2.50	1.63	1.75	2.05
Other nonland capital	2.47	2.61	2.58	2.49	2.93	3.18	2.48	2.49	2.69	2.88	3.27	3.05	2.95	3.72
Land	13.99	9.55	9.79	14.47	28.67	19.65	21.62	20.58	25.28	19.82	22.03	13.85	13.63	21.33
Unpaid labor	4.41	4.71	5.57	5.85	6.36	6.90	6.15	6.48	6.70	6.71	5.57	5.54	5.67	5.82
Subtotal	66.26	65.60	68.80	74.18	101.87	106.70	114.29	112.96	116.40	109.75	112.04	97.04	93.64	107.34
Residual returns to management and risk	10.41	-9.61	-10.61	-5.90	25.54	-14.05	-18.32	-19.52	-4.29	-20.36	-45.97	-57.50	-55.35	-41.86
Harvest-period price (dollars/bu.)	3.38	2.72	2.28	3.01	3.84	3.56	3.72	3.45	3.32	3.36	2.94	2.28	2.32	3.35
Yield (bu./planted acre)	21.00	18.50	22.70	20.90	31.80	24.51	23.18	24.36	30.92	23.80	22.41	17.30	16.46	19.49

1/ Data on value of wheat grazing not available after 1985.



Appendix table 9A--Wheat production cash costs and returns, Southwest, 1975-88

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Dollars per planted acre														
Gross value of production (excluding direct Government payments):														
Wheat	227.35	172.24	120.44	202.13	281.39	266.81	287.45	249.42	253.36	240.90	266.55	207.00	201.79	323.64
Wheat straw	7.77	8.25	6.37	7.37	8.04	9.78	3.94	4.16	4.75	4.53	0.91	0.73	0.66	0.80
Total, gross value of production	235.12	180.49	126.81	209.50	289.42	276.59	291.39	253.58	258.11	245.43	267.46	207.73	202.45	324.44
Cash expenses:														
Seed	12.37	11.59	8.94	10.32	10.92	14.29	14.52	13.74	13.89	12.31	17.40	16.58	17.21	16.12
Fertilizer	32.23	23.93	23.48	19.03	18.92	23.53	45.59	45.28	41.00	43.52	21.40	19.93	18.30	20.02
Chemicals	3.51	5.44	4.89	7.00	7.19	7.66	9.16	9.79	10.15	10.37	10.24	10.22	9.96	10.12
Custom operations	6.51	5.96	5.96	8.09	8.45	9.42	31.43	9.42	31.42	31.96	21.63	21.63	21.86	23.99
Fuel, lube, and electricity	10.56	10.52	9.46	12.67	17.83	23.38	35.52	41.13	40.77	38.63	29.01	25.77	27.16	28.20
Repairs	8.03	7.38	6.18	8.16	9.73	11.11	13.05	12.66	13.50	14.56	9.66	9.33	9.53	10.04
Hired labor	4.45	4.90	5.97	7.92	8.48	9.29	7.22	7.47	7.45	7.82	8.11	8.40	8.70	8.98
Purchased irrigation water	6.27	6.34	5.74	7.80	8.49	9.46	10.96	11.17	11.21	11.40	7.52	7.27	7.29	7.29
Miscellaneous	0.19	0.18	0.18	0.19	0.23	0.25	0.05	4.44	4.46	4.54	0	0	0	0
Technical services	0	0	0	0	0	0	4.32	0.99	0.97	1.00	1.02	1.02	1.00	1.00
Total, variable cash expenses	84.32	76.86	70.80	81.18	90.24	108.25	171.82	178.12	174.82	176.11	126.14	120.15	121.01	125.76
General farm overhead	11.08	11.77	12.54	15.79	18.54	16.64	18.53	26.63	28.16	28.77	19.81	18.46	17.43	24.36
Taxes and insurance	4.23	4.89	5.10	5.96	6.97	19.00	16.71	14.00	15.01	15.46	17.22	17.49	17.74	17.88
Interest on operating loans	12.01	11.10	10.62	11.90	14.43	17.33	22.97	26.12	27.50	27.15	14.45	13.96	7.24	10.45
Interest on real estate	23.21	23.17	23.17	23.17	23.28	23.41	20.50	16.15	34.77	30.93	31.81	21.67	14.82	18.07
Total, fixed cash expenses	50.53	50.97	51.43	56.81	63.22	76.38	78.71	82.90	105.44	102.31	83.29	71.58	57.23	70.76
Total, cash expenses	134.85	127.83	122.23	137.99	153.46	184.63	250.53	261.02	280.26	278.42	209.43	191.73	178.24	196.52
Gross value of production less cash expenses	100.27	52.66	4.58	71.51	135.96	91.96	40.86	-7.44	-22.15	-32.99	58.03	16.00	24.21	127.92
Harvest-period price (dollars/bu.)	3.70	2.98	2.49	3.29	4.20	3.86	3.97	3.67	3.87	3.47	3.38	2.85	2.76	4.06
Yield (bu./planted acre)	61.50	57.90	48.30	61.40	67.00	69.03	72.43	67.95	65.47	69.50	78.74	72.72	72.99	79.77

Appendix table 9B--Wheat production economic costs and returns, Southwest, 1975-88

Item	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Dollars per planted acre														
Gross value of production (excluding direct Government payments):														
Wheat	227.35	172.24	120.44	202.13	281.39	266.81	287.45	249.42	253.36	240.90	266.55	207.00	201.79	323.64
Wheat straw	7.77	8.25	6.37	7.37	8.04	9.78	3.94	4.16	4.75	4.53	0.91	0.73	0.66	0.80
Total, gross value of production	235.12	180.49	126.81	209.50	289.42	276.59	291.39	253.58	258.11	245.43	267.46	207.73	202.45	324.44
Economic (full ownership) costs:														
Variable cash expenses	84.32	76.86	70.80	81.18	90.24	108.25	171.82	178.12	174.82	176.11	126.14	120.15	121.01	125.76
General farm overhead	11.08	11.77	12.54	15.79	18.54	16.64	18.53	26.63	28.16	28.77	19.81	18.46	17.43	24.36
Taxes and insurance	4.23	4.89	5.10	5.96	6.97	19.00	16.71	14.00	15.01	15.46	17.22	17.49	17.74	17.88
Capital replacement	11.62	16.86	14.20	19.92	25.33	27.24	27.10	29.82	31.42	31.75	24.57	24.24	24.50	25.79
Operating capital	2.19	1.93	2.81	2.88	4.18	5.59	9.90	8.16	6.34	7.16	4.98	3.05	3.45	4.04
Other nonland capital	3.19	4.33	3.26	4.27	5.33	5.49	4.64	5.05	4.82	5.97	4.97	4.97	4.92	6.04
Land	51.04	41.87	31.49	59.14	70.46	60.86	60.19	67.46	67.12	67.12	108.97	90.03	92.49	107.82
Unpaid labor	10.33	10.88	13.26	17.61	18.85	20.69	16.05	16.60	16.55	17.38	18.05	18.70	19.38	19.98
Subtotal	178.00	169.38	153.46	206.75	239.91	263.71	324.94	345.54	344.58	349.72	324.22	297.09	300.92	331.67
Residual returns to management and risk	57.12	11.11	-26.65	2.75	49.51	12.88	-33.55	-91.96	-86.47	-104.29	-56.76	-89.36	-98.47	-7.23
Harvest-period price (dollars/bu.)	3.70	2.98	2.49	3.29	4.20	3.86	3.97	3.67	3.87	3.47	3.38	2.85	2.76	4.06
Yield (bu./planted acre)	61.50	57.90	48.30	61.40	67.00	69.03	72.43	67.95	65.47	69.50	78.74	72.72	72.99	79.77





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